COMMITMENT & INTEGRITY
DRIVE RESULTS

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November 6, 2013

Ms. Kimberly Tisa
PCB Coordinator
U.S. Environmental Protection Agency Region 1
5 Post Office Square – Suite 100
Boston, Massachusetts 02109-3912

RE: PCB Remediation Completion Report
Tuchman Hall Ground and First Floor Windows
Harvard University, Cambridge, Massachusetts

Dear Ms. Tisa:

On behalf of the President and Fellows of Harvard College (Harvard), this Final Completion Report has been prepared to document the remediation of polychlorinated biphenyl (PCB) containing building materials encountered during renovation activities at Tuchman Hall, located at 64 Linnaean Street on the Harvard University campus in Cambridge, Massachusetts.

Background

The Tuchman Hall building was originally constructed in 1966. The footprint / area of Tuchman Hall is approximately 5,900 square feet and it is a six-story brick and concrete masonry building used for student housing. The ground and first floor windows were removed and replaced as part of a summer 2013 renovation project. During pre-renovation survey activities, two types of caulking sealants located at the window frame to exterior masonry joint were found to contain PCBs in excess of 50 parts per million (ppm), the Federal regulatory threshold for PCBs in manufactured product. The sealants were also determined to be asbestos-containing materials (ACM).

The PCB Remediation Plan submitted to the U.S. Environmental Protection Agency (EPA) on May 24, 2013 detailed the proposed remedial approach for the removal and off-site disposal of PCB bulk product waste (caulking) and PCB impacted building materials, and a proposed 40 CFR 761.61(c) approach for verification and remediation, if needed, of adjacent building materials scheduled to remain in place. Specifically, a variance from the Subpart O verification requirements was proposed under 40 CFR 761.61(c). The proposed sampling frequency and contingency in-place management option was discussed with EPA during a phone conversation on May 16, 2013 prior to plan submittal. Communication of the initiation of the work was made to EPA on May 24, 2013 (i.e., work needed to initiate on June 4, 2013 given the schedule and requirement for the work to be completed prior to students returning for the fall semester).

Following a conversation with EPA on July 11, 2013 regarding the plan submittal and Approval, a Status Letter was prepared and submitted to the Agency on July 19, 2013. EPA provided comments on the letter on August 13, 2013 and Harvard submitted responses to comments on August 15, 2013.

Remedy Implementation

The key components of the proposed remedial approach included complete removal of ≥ 50 ppm PCB-containing caulking as well as the window frames which were "coated" or in direct contact with this caulking. Concrete and brick masonry surfaces in direct contact with the caulking would be subject to removal via surficial grinding techniques and verification sampling to confirm that materials remaining in place meet the 1 ppm

unrestricted use cleanup level. The plan included a contingency in-place management approach (liquid encapsulation) if target cleanup levels could not be achieved.

Harvard contracted LVI Environmental Services Inc. (LVI) to conduct the PCB Remediation Activities proposed in the May 24, 2013 Remediation Plan. The work was performed in accordance with LVI's Contractor Workplan, which was provided to EPA as an attachment to the Remediation Plan. LVI mobilized to the site on June 3, 2013 to establish site controls, and the remediation work began on June 5, 2013.

The ≥ 50 ppm PCB-containing caulking, window frames, and waste generated from the adjacent concrete or brick masonry grinding activities were removed as a single waste stream. To reduce particulate levels and exposures to airborne particulates, a combination of engineering controls (e.g., work zone enclosures, wetting, etc.) and personal protective equipment (PPE) were implemented as part of the work activities. The activities were conducted using polyethylene controls as required for the ACM abatement.

On July 8, 2013, a total of 9,353 kilograms (10.3 tons) of bulk PCB waste contained in one roll-off trailer was removed for off-site disposal as PCB ≥ 50 ppm and ACM waste to Chemical Waste Management Chemical Services landfill located at 1150 Balmer Road in Model City, New York. A copy of the waste manifest and certificate of disposal is included as Attachment A of this report.

Upon removal of the PCB waste materials as described above, Woodard & Curran visually inspected each window opening to document the extent of the removals. At each window, the caulking and windows had been removed in their entirety, and the surrounding masonry formerly in direct contact with the caulking had been grinded to an extent such that residual caulking and/or staining had been removed from the masonry surface.

Consistent with the Remediation Plan submittal, post-removal masonry verification samples were collected at an approximate frequency of 1 sample per every 45 linear feet of joint, and, at a minimum frequency of one sample per joint configuration per façade. This sampling frequency resulted in a total of 32 primary samples (i.e., an approximate frequency of 1 sample per 1.2 window openings). A table summarizing the joint quantity, joint type, and sample results is provided as Table 1. Drawings depicting the window identifiers (which were also used for sample location identification) are attached to this letter. Laboratory reports are provided in Attachment B.

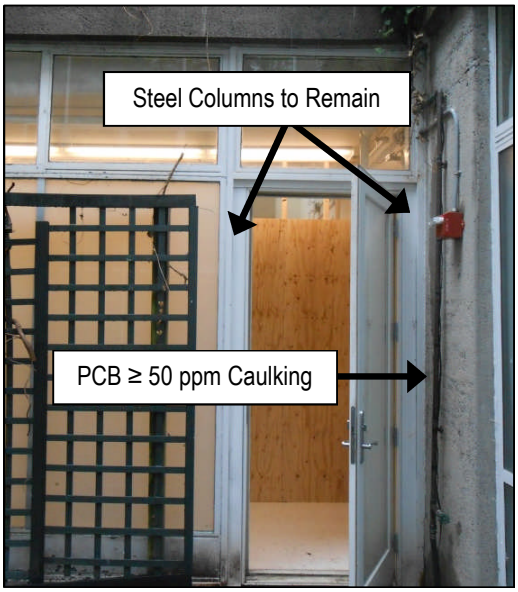
The verification results presented on Table 1 are summarized below:

- 31 out of 32 verification samples met the 1 ppm target cleanup level after the initial round of grinding;
    - 26 of these samples were reported as non-detect for PCBs, with detection limits at or below 0.158 ppm.
    - 5 of these samples were reported with detectable concentrations of PCBs ranging from 0.073 to 0.159 ppm.
- 1 sample collected from a first floor north elevation window was reported with PCBs in concrete above the 1 ppm target cleanup level after the initial round of grinding (4.27 ppm). This joint was from a window that was completed during the initial week of removals and grinding. All samples were analyzed under accelerated (2 day) turnaround times; therefore, this result was received early in the program and the need to focus on the grinding process was re-communicated to the Contractor. After discussions with the Contractor, this location was revisited and additional grinding was performed prior to collecting a follow-up sample at an off-set location. The target cleanup level was achieved after this additional limited grinding was performed, as the subsequent laboratory result was reported with PCBs at 0.596 ppm.

In addition to the window removal and verification sampling activities described above as proposed in the May 24, 2013 Remediation Plan, two additional conditions encountered during the work were managed as follows:

- Basement Door – an exterior metal door on the east elevation of the ground floor was added to the scope of materials to be removed during renovation work. The caulking observed on the exterior side of the door frame (a total of 27 l.f. of caulking at the metal to concrete joint) was observed to be the same type of caulking previously identified as PCB ≥ 50 ppm caulking at the ground floor and first floor windows. Consistent with the remediation approach developed for the windows, the caulking and door frame were removed as ≥ 50 ppm PCB waste and ACM, and surficial grinding was performed on the masonry surface in former direct contact with the caulking. Two bulk concrete verification samples were collected from the grinded masonry surface (one horizontal joint and one vertical joint). As presented on Table 1, the results of both of these samples were reported below the target cleanup level of 1 ppm, with one sample reported as non-detect for PCBs (< 0.054 ppm), and one sample reported with PCBs at 0.058 ppm.

- Additional Ground Floor Window – one window opening on the south elevation of the ground floor was added to the removal scope of work. This window was constructed with two steel columns that functioned as structural supports and as such were required to remain in place (see photo at right). The caulking observed on the exterior side of the eastern steel column (a 9.5-l.f. joint between the steel column and the adjacent concrete at the eastern end of the opening) was observed to be the same type of caulking previously identified as PCB ≥ 50 ppm caulking at other window locations. Consistent with the remediation approach developed for the other window locations, the caulking was removed as ≥ 50 ppm PCB waste and ACM, and surficial grinding was performed on the masonry surface in former direct contact with the caulking. Because the steel column needed to remain in place, the metal surface in former direct contact with the caulking was decontaminated using a d-limonene cleaner (terpene hydrocarbon). One bulk concrete verification sample was collected from the grinded masonry surface, and one surface wipe sample was collected from the decontaminated metal surface. As presented on Table 1, the results of both of these samples were reported as non-detect for PCBs (concrete bulk sample < 0.057 ppm, metal wipe sample < 0.5 µg/100cm^2.



A data quality assessment was conducted by a third-party validator (Data Check, Inc. of Durham, New Hampshire) which included a review of sample collection and preservation methods, sample holding times, laboratory documentation, a review of the internal laboratory QA/QC procedures and results including surrogate recoveries, blank results, and laboratory control standard results. The assessment indicated that the data was deemed usable for its intended purposes of characterizing PCB-affected media and verifying remediation efforts in accordance with 40 CFR Part 761, and no qualifications were applied to the data.

The PCB remediation activities described above were completed on July 3, 2013. Based on the results of the visual inspections and the verification sampling (achievement of the unrestricted use cleanup level in materials remaining on-site), no encapsulation or containment barrier systems were warranted as an in-place management system, and no further activities are warranted as part of this work activity.

If you have any comments, questions, or require further information, please do not hesitate to contact me at the number listed above.

Sincerely,

WOODARD & CURRAN INC.

Jeffrey A. Hamel, LSP, LEP
Senior Vice President

Enclosures: Table 1 – Tuchman Hall Ground & First Floor Verification Results
Drawing A201 – North and South Elevations
Drawing A202 – East and West Elevations
Attachment A – Waste Shipment Records
Attachment B – Laboratory Analytical Reports

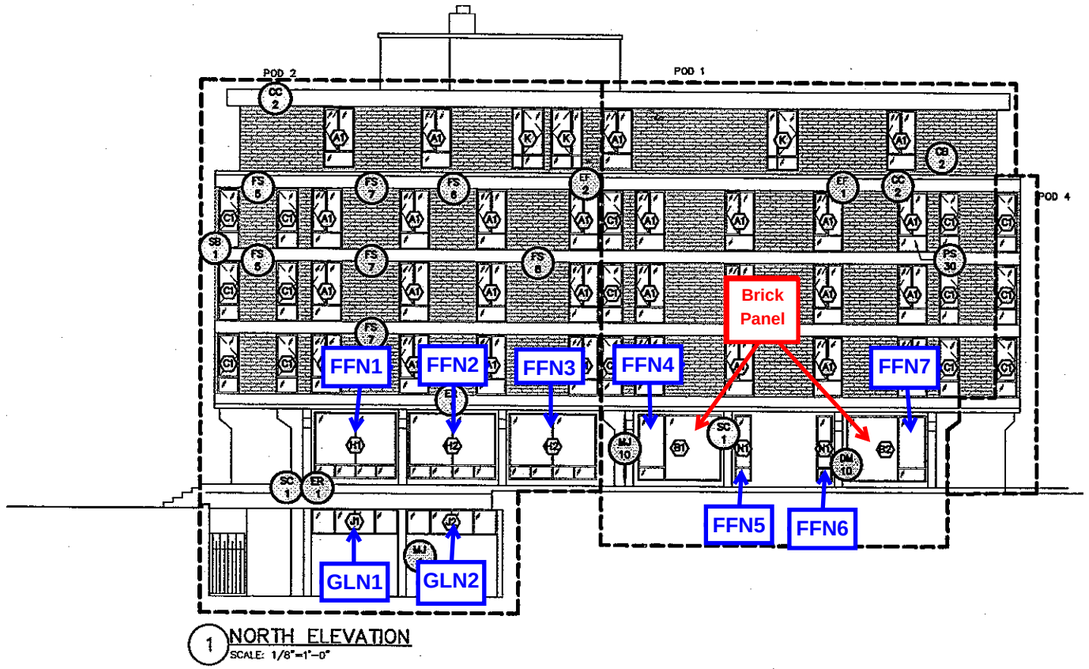
cc: Aaron Townsley, Harvard

TABLE 1
TUCHMAN HALL GROUND & FIRST FLOOR VERIFICATION RESULTS
HARVARD UNIVERSITY, CAMBRIDGE, MASSACHUSETTS

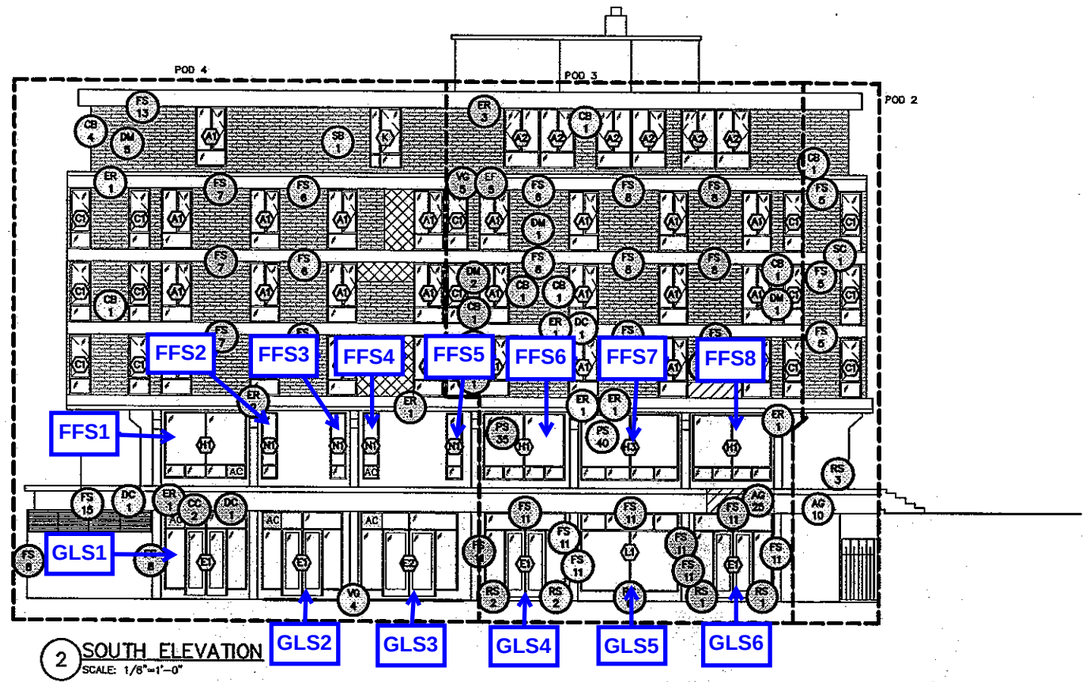
Elevation		Window ID	Sample / Visual Inspection Date	Masonry Type	Sample Location	Sample ID	Reporting Limit	Aroclor 1248	Aroclor 1254	Total PCBs
Ground Level (GL)	South	GLS3	06/13/13	Concrete	Top horizontal, 2' from east vertical joint	TMH-VBC-GLS3-126	0.059	ND	ND	ND
			06/13/13	Concrete	Bottom horizontal, 4' from west vertical	TMH-VBC-GLS3-127	0.135	ND	ND	ND
			06/13/13	Brick	Eastern vertical joint, 3 ft ags	TMH-VBC-GLS3-128	0.063	ND	ND	ND
		Treehouse Windows	07/03/13	Concrete	East vertical joint, 4' above ground surface	TMH-VBC-TH-141	0.057	ND	ND	ND
			07/03/13	Metal	East vertical joint, 4' above ground surface	TMH-VWM-TH-140 (wipe)	0.5	ND	ND	ND
	East	GLE1	06/12/13	Concrete	Top horizontal, center	TMH-VBC-GLE1-118	0.066	ND	ND	ND
			06/12/13	Concrete	Bottom horizontal joint, 6' from northern vertical joint	TMH-VBC-GLE1-119	0.069	ND	ND	ND
			06/12/13	Concrete	Northern vertical joint, 4 ft ags	TMH-VBC-GLE1-120	0.063	ND	ND	ND
		Basement Door	07/01/13	Concrete	Top horizontal, 6" from northern vertical	TMH-VBC-138	0.055	ND	0.058	0.058
			07/01/13	Concrete	Southern vertical joint, 3 ft above ground	TMH-VBC-139	0.054	ND	ND	ND
	North	GLN1	06/11/13	Concrete	Top horizontal, center	TMH-VBC-GLN1-114	0.069	ND	ND	ND
			06/12/13	Concrete	Bottom Horizontal, Center	TMH-VBC-GLN1-115	0.066	ND	ND	ND
			06/11/13	Concrete	Eastern vertical joint, 1' above lower horizontal joint	TMH-VBC-GLN1-116	0.059	ND	ND	ND
			06/11/13	Concrete	Western vertical joint, 1' above lower horizontal joint	TMH-VBC-GLN1-117	0.056	ND	ND	ND
	West	GLW1	06/13/13	Concrete	Top horizontal, 6" from northern vertical	TMH-VBC-GLW1-122	0.066	0.159	ND	0.159
			06/13/13	Concrete	Bottom horizontal, 3' from south vertical	TMH-VBC-GLW1-123	0.063	ND	ND	ND
			06/13/13	Concrete	Northern vertical joint, 4 ft ags	TMH-VBC-GLW1-124	0.056	ND	ND	ND
First Floor (FF)	South	FFS2	06/19/13	Concrete	Western vertical joint, 4 ft ags	TMH-VBC-FFS2-131	0.058	ND	ND	ND
		FFS3	06/19/13	Concrete	Top horizontal, 6" from eastern vertical	TMH-VBC-FFS3-132	0.060	ND	ND	ND
			06/19/13	Concrete	Bottom Horizontal, Center	TMH-VBC-FFS3-133	0.061	ND	ND	ND
			06/19/13	Brick	Western vertical joint, 5 ft ags	TMH-VBC-FFS3-134	0.058	ND	ND	ND
			06/19/13	Concrete	Eastern vertical joint, 3 ft ags	TMH-VBC-FFS3-135	0.059	ND	0.090	0.090
	East	FFE4	06/06/13	Concrete	Southern vertical joint, 2 ft ags	THM-VBC-FFE4-100	0.059	ND	0.08	0.08
		FFE7	06/06/13	Concrete	Top horizontal, 3" from northern vertical	TMH-VBC-FFE7-101	0.063	ND	ND	ND
			06/06/13	Concrete	Bottom horizontal joint, center	TMH-VBC-FFE7-102	0.096	ND	ND	ND
			06/06/13	Brick	Southern vertical joint, 4 ft ags	TMH-VBC-FFE7-103	0.063	ND	ND	ND
			06/06/13	Concrete	Northern vertical joint, 4.5 ft ags	TMH-VBC-FFE7-104	0.063	ND	ND	ND
	North	FFN4	06/06/13	Concrete	Top horizontal joint, 0.5 ft from western vertical joint	TMH-VBC-FFN4-105	0.066	ND	ND	ND
			06/06/13	Concrete	~~Bottom horizontal joint, center~~	~~TMH-VBC-FFN4-106~~	~~0.333~~	~~ND~~	~~4.27~~	~~4.27~~
			06/12/13		Bottom horizontal joint, 1 ft from western vertical joint (after additional grinding)	TMH-VBC-FFN4-121	0.063	ND	0.596	0.596
			06/06/13	Concrete	Eastern vertical joint, 5 ft ags	TMH-VBC-FFN4-107	0.059	ND	ND	ND
			06/06/13	Brick	Western vertical joint, 5 ft ags	TMH-VBC-FFN4-108	0.059	ND	ND	ND
		FFN7	06/07/13	Concrete	Southern vertical joint, 4 ft ags	TMH-VBC-FFN7-109	0.046	ND	ND	ND
	West	FFW2	06/07/13	Concrete	Top horizontal joint, 0.5 ft from northern vertical joint	TMH-VBC-FFW2-110	0.066	ND	0.073	0.073
			06/07/13	Concrete	Bottom horizontal joint, center	TMH-VBC-FFW2-111	0.158	ND	ND	ND
			06/07/13	Concrete	Northern vertical joint, 4 ft ags	TMH-VBC-FFW2-112	0.05	ND	0.092	0.092
			06/07/13	Brick	Southern vertical joint, 4 ft ags	TMH-VBC-FFW2-113	0.059	ND	ND	ND

Notes:

1. Results are reported in units of milligrams per kilogram (mg/kg), except for the wipe sample which is reported in ug/100cm2.
2. ND = Not detected above minimum reporting limit, as indicated.
3. Laboratory samples were extracted by Soxhlet (Method 3540C) and analyzed for PCBs by Method 8082.
4. Concrete associated with sample highlighted was subsequently removed and resampled (see line below and text)



1 NORTH ELEVATION
SCALE: 1/8"=1'-0"



2 SOUTH ELEVATION
SCALE: 1/8"=1'-0"

DEFECT LEGEND

- DC # – DELAMINATED CONCRETE # INDICATES SQUARE FEET
- CC # – CRACKED CONCRETE # INDICATES LINEAR FEET
- CB # – CRACKED BRICK # INDICATES UNITS
- SC # – SPALLED CONCRETE # INDICATES SQUARE FEET
- SB # – SPALLED BRICK # INDICATES UNITS
- FS # – FAILED SEALANT # INDICATES LINEAR FEET
- MJ # – DETERIORATED MORTAR JOINT # INDICATES LINEAR FEET
- DM # – DETERIORATED MORTAR JOINT # INDICATES SQUARE FEET
- AG # – ALGAE GROWTH # INDICATES SQUARE FEET
- VG # – VEGETATIVE GROWTH # INDICATES SQUARE FEET
- ER # – EXPOSED REBAR # INDICATES LINEAR FEET
- RS # – RUST STAINING # INDICATES SQUARE FEET
- EF # – EFFLORESCENSE # INDICATES SQUARE FEET
- SECTION OF BOWED MASONRY; APPROXIMATE SCALE
- SECTION OF REBUILT BRICK MASONRY AT THROUGH WALL FLASHING REPAIR

LEGEND

- AC – AIR CONDITIONER
- LOUVER

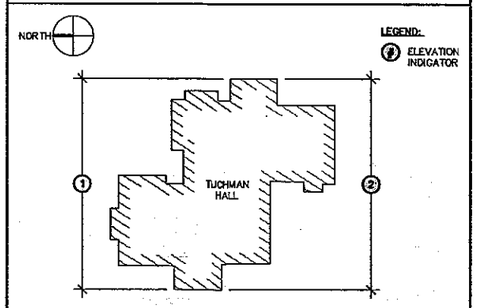
SHEET NOTES

1. GROUND AND FIRST FLOOR WINDOW PERIMETER SEALANT TYPICALLY APPEARS BRITTLE, CRACKED, AND EXHIBITS ADHESIVE AND COHESIVE FAILURE.
2. WINDOW PERIMETER SEALANT REPAIRS MADE AT SECOND, THIRD, AND FOURTH FLOOR WINDOWS. NEW SEALANT HAS BEEN APPLIED AT THESE LOCATIONS.
3. BRICK MASONRY REBUILT AT SECOND, THIRD, FOURTH FLOOR WINDOW JAMBS.
4. GLAZING SEALS AT FIRST FLOOR STEEL FRAMED WINDOWS ARE TYPICALLY FAILED.
5. FIRST FLOOR STEEL FRAMED WINDOWS EXHIBIT VARYING DECREES OF PEELED PAINT AND SURFACE RUSTING.

GENERAL NOTES

1. THE INFORMATION SHOWN ON THIS SHEET HAS BEEN COMPILED FROM VARIOUS SOURCES AND MAY NOT REFLECT THE ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD.
2. HATCH PATTERNS ARE FOR REPRESENTATION ONLY AND SHOULD NOT BE USED AS A MEANS OF QUANTIFYING.
3. THE CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE ALL TEMPORARY SHORING OF THE FIRE ESCAPES AS REQUIRED TO REBUILD THE MASONRY WALLS AROUND THE OUTRIGGER SUPPORTS.

KEY PLAN



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Engineers and Planners
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Boston Baltimore Orlando San Francisco

PROJECT
WINDOW REPAIRS AND ASSOCIATED WORK AT
CURRIER HOUSE
64 LINNAEAN STREET
CAMBRIDGE, MASSACHUSETTS 02138

OWNER
HARVARD REAL ESTATE SERVICES
1350 MASSACHUSETTS AVENUE
CAMBRIDGE, MASSACHUSETTS 02138

NO.	DATE	DESCRIPTION	BY

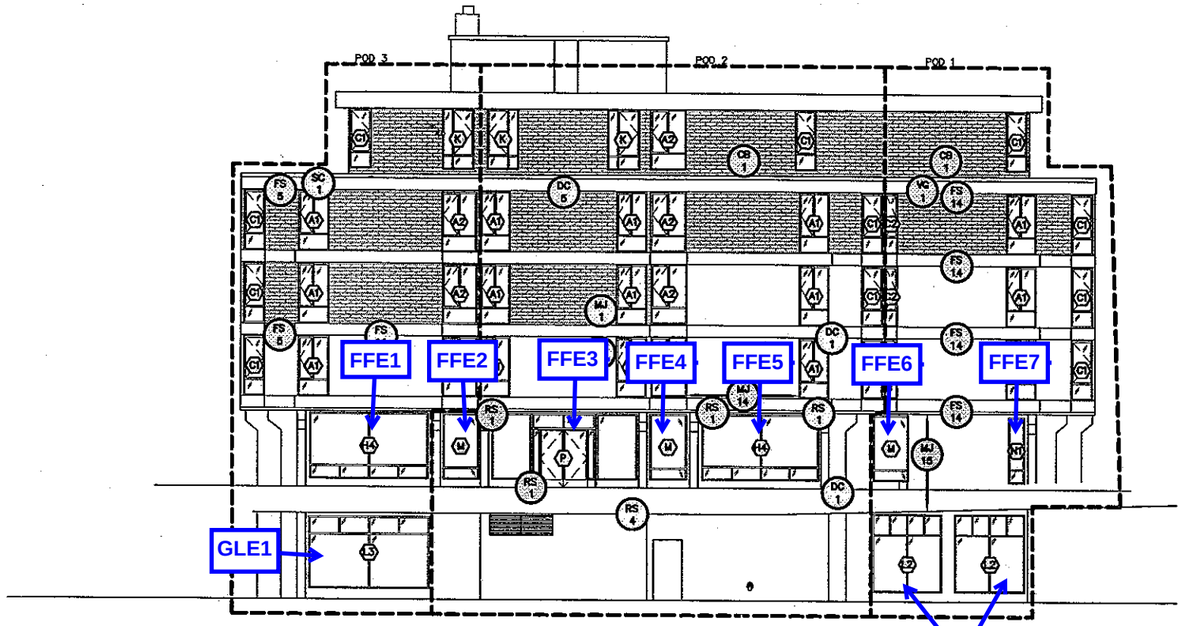
PROJECT NO.	824661
CADD FILE	824661 ELEV
DESIGNED BY	TAD/KRM
DRAWN BY	TAD/KRM/CAM
CHECKED BY	
DATE	OCTOBER 2011
DRAWING SCALE	1/8"=1'-0"

GRAPHIC SCALE
0 4' 8' 16'

SHEET TITLE
TUCHMAN HALL ELEVATIONS

DRAWING NO.
A201

7 OF



3 EAST ELEVATION
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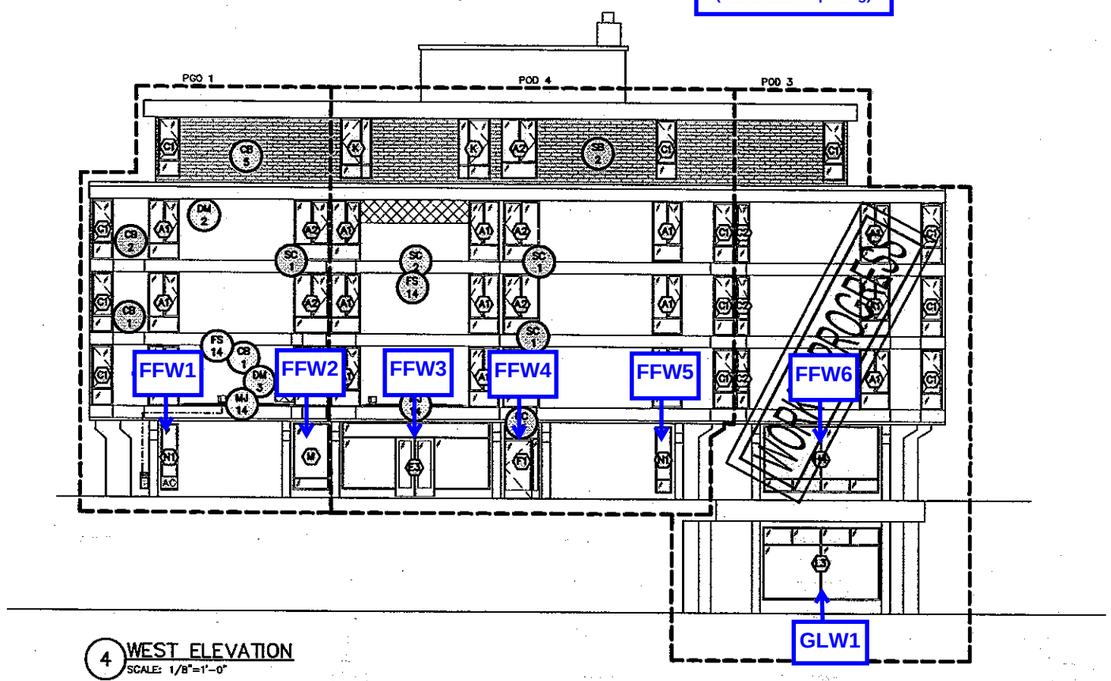

4 WEST ELEVATION
SCALE: 1/8"=1'-0"

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- RS # – RUST STAINING # INDICATES SQUARE FEET
- SECTION OF BOWED MASONRY; APPROXIMATE SCALE

LEGEND

- ELECTRICAL CONDUIT
- AC – AIR CONDITIONER
- LOUVER
- SPIGOT
- WALL MOUNTED ELECTRICAL PANEL
- L – LIGHT FIXTURE

SHEET NOTES

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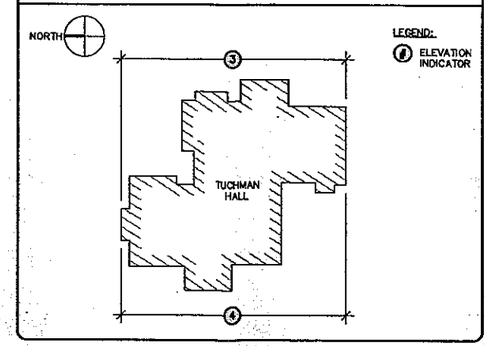

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GRAPHIC SCALE
0 4' 8' 16'

SHEET TITLE
TUCHMAN HALL ELEVATIONS

DRAWING NO.
A202

8 OF

ATTACHMENT A – WASTE SHIPMENT RECORDS

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number MAR174958521	2. Page 1 of 1	3. Emergency Response Phone 800-424-9300	4. Manifest Tracking Number 011063637 JJK

GENERATOR

5. Generator's Name and Mailing Address
Harvard University
46 Blackstone St.
Cambridge, MA 02139
ATTN LANCE SCHUMACHER
Generator's Phone: 617-496-9152

Generator's Site Address (if different than mailing address)
Harvard University-Tuchman Hall
64 Linnaean Street
Cambridge, MA 02138

6. Transporter 1 Company Name: Freehold Cartage, Inc. — U.S. EPA ID Number: NJ0054126164

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
CWM Chemical Services, L.L.C.
1550 Balmer Road
Model City, NY 14107 USA
Facility's Phone: 716-286-1550
U.S. EPA ID Number: NYD049836679

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,UN3432, Polychlorinated Biphenyls, Solid, Mixture, 9, III	001	CM	EST 6,000	K	MA02 B007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
ERG # 171 Out of Service Date: 7/8/13 rec'd 9353k Approval # NY304390 8166140
PCB and Non Friable Asbestos Debris
ER Contracted by Chemtrec
Weight is estimated
SR 1008143

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Lance D. Schumacher — Signature: — Month 7 Day 8 Year 13

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Ken Reem — Signature: Ken Reem — Month 07 Day 08 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space: ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Qty est actual rec'd 9353k

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1	2	3	4
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Jody Parfinski — Signature: Jody Parfinski — Month 7 Day 10 Year 13

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Transporter Log

CWM Chemical Services, Inc.
Model City, NY

199557

_____ Cubic Yards

_____ Receipt #
_____ Trailer License Plate # and State
_____ Service Req. #
_____ Profile #
_____ Permit #
_____ Transporter Name
_____ Tractor/Trailer/Roll-off #
_____ Driver's Name
_____ Generator

Scheduled Arrival: _____ Date _____ Time

Actual Arrival: _____ Date _____ Time In _____ Time Out

Arrived during Blackout? Y / N Notified DEC? Y / N

Receiving: _____ Initials _____ Comments

☐ Leaker ☐ Permit Violation ☐ Placarding/Veh. I.D. Violation

☐ Other (specify _____

☐ Bulk to Landfill ☐ No wet line ☐ Flatbed ☐ Stabilization ☐ Drums ☐ Tanker ☐ Transformers

Laboratory
_____ Time In _____ Time Out _____ Initials _____ Comments

Stabilization
_____ Time In _____ Time Out _____ Initials _____ Gross Wt _____ Comments

Landfill
_____ Time In _____ Time Out _____ Initials _____ Comments

Other
_____ Time In _____ Time Out _____ Initials _____ Comments

Aqueous Treatment
_____ Time In _____ Time Out _____ Signature (NO Initials) _____ Comments

Facility Personnel (*please initial*)

_____ Smoking or eating in prohibited areas
_____ Leaving truck unattended
_____ Failure to obey instructions of facility personnel
_____ Failure to display overweight flag
_____ Failure to wear appropriate PPE
_____ Improper tarping or detarpin
_____ Unsafe driving practices
_____ Overweight upon arrival
_____ Other (specify) _____

Security Guard Initials: _____
(Indicating receipt of Wash Bay pass, if necessary)

Driver's Comments

FREEHOLD CARTAGE INC.

P.O. BOX 5010 • FREEHOLD, NJ 07728-5010
(732) 462-1001 • FAX (732) 308-0924

BILL OF LADING

FCI EPA ID NO. NJD054126164

S 448109

700 Pigeon Point Road New Castle, DE 19720 Phone: (302) 658-2005 Fax: (302) 658-6229	175 Barlow Man. Airport Bartow, FL 33830 Phone: (863) 533-4599 Fax: (863) 533-1613	5533 Dunham Road Maple Heights, OH 44137 Phone: (330) 835-3473 Fax: (330) 835-3732	308 Monahan Avenue Dunmore, PA 18512 Phone: (570) 342-7232 Fax: (570) 342-7367	132 Myrtle Beach Hwy Sumter, SC 29153 Phone: (803) 773-2611 Fax: (803) 773-2942

SHIPPER NAME/ADDRESS	PHONE (AREA CODE)		APPOINTMENT TIME
	TRACTOR	TRAILER	:

FCI REP. LOADING (PRINT)	PROCEDURE	EQUIP. SPOTTED	EQUIP. REMOVED	TIME AT SHIPPER (MILITARY TIME ONLY)
				: ARRIVAL TIME / : DEPARTURE TIME

COMMENTS OR DELAYS AT SHIPPER	EQUIPMENT USED

BROKER:

PO #: WO #:

MANIFEST / DOCUMENT NO.

	PROPER U.S. D.O.T. SHIPPING NAME	U.S. D.O.T. HAZARDOUS CLASS	NA ID# NO.	PACKING GROUP	NO. CONT.	CONT. TYPE	NET QUANTITY	UNIT MEASURE	WASTE NO.	FORM
1										
2										
3										

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION NUMBER:

SHIPPER'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The materials described above were consigned to the Transporter named. The consignee can and will accept the shipment and has a valid permit to do so if required. I certify that the foregoing is true and correct to the best of my knowledge.

Payment to the contractor for waste removal does not constitute payment to the carrier and if the contractor does not pay the carrier, the shipper is obligated to pay the agreed rate offered to the contractor.

PLEASE PRINT NAME/TITLE	SHIPPER'S SIGNATURE	DATE LOADED
	X _____ I HAVE READ THE ABOVE AND UNDERSTAND AND AGREE TO ALL OF IT'S CONTENT	/ / MO. DAY YR.

CONSIGNEE NAME/ADDRESS	PHONE (AREA CODE)		APPOINTMENT TIME
	TRACTOR	TRAILER	:

FCI REP. UNLOADING (PRINT)	PROCEDURE	EQUIP. SPOTTED	EQUIP. REMOVED	TIME AT CONSIGNEE (MILITARY TIME ONLY)
				: ARRIVAL TIME / : DEPARTURE TIME

COMMENTS OR DELAYS AT CONSIGNEE	EQUIPMENT USED

PLEASE PRINT NAME/TITLE	CONSIGNEE SIGNATURE	DATE UNLOADED
	X _____	/ / MO. DAY YR.

AR H-0257
CT CT-HW-307
DE DE-HW-203
DE-SW-203
IL UPW-0190713-OH
MA MA-294
MD HWH-167
2001-OPV-2335
ME ME-HWT-47
ME-WOT-47
MI UPW-0190713-OH
MN UPW-0190713-OH
MO H-1490
ND WH-429
NH TNH-0047
NJ S-2285
15939
NY N-113
OH UPW-0190713-OH
OK UPW-0190713-OH
ONTARIO, CANADA A-840243
PA PA-AH-0067
QUEBEC, CANADA QC-6ML-047
RI RI-526
TX 40705
WI 11602
WV UPW-0190713-OH

White - FCI Original
Yellow - FCI Billing
Blue - FCI Office/Customer
Green - Retained by T&DF
Gold - Retained by Generator

S 448109

CWM CHEMICAL SERVICES, LLC
1550 Balmer Road
Model City, NY 14107
(716) 286-1550
(716) 286-0211 fax

HARVARD UNIVERSITY
ATTN: LANCE SCHUMACHER
MAV174958621
46 BLACKSTONE STREET
CAMBRIDGE MA 02138

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from HARVARD UNIVERSITY on 07/10/13 as described on Shipping Document number 011063637JJK Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: NY304390
CWM Tracking ID: 8166140101
CWM Unit #: 1*0
Disposal Date: 07/10/13

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 366184
07/11/13

For questions please call
our Customer Service Dept.
at (800) 843-3604

ATTACHMENT B – LABORATORY ANALYTICAL REPORTS

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

June 10, 2013

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

RE: Analytical Results Case Narrative
Analytics # 75717
Tuchman Hall Project No: 226333

Dear Ms. Martin;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082A.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
MCP Cover Pages
PCB Form 1 Data Sheet for Samples
Chromatograms
PCB Form 10 Confirmation Results
PCB Blanks and Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON-CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

PCBs by EPA Method 8082:
No results were reported below the quantitation limit.

Sample 75717-7 was analyzed at a dilution due to concentrations of PCBs that exceeded the calibration range of the instrument.

Sample 75717-3 had high surrogate recoveries. The sample was reanalyzed with similar results. Results were reported with a comment to this affect.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen L. Knollmeyer
Laboratory Director

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

Report Number: 75717

Revision: Rev. 0

Re: Tuchman Hall (Project No: 226333)

Enclosed are the results of the analyses on your sample(s). Samples were received on 06 June 2013 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Sample Analysis: The attached pages detail the Client Sample IDs, Lab Sample IDs, and Analyses requested

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, North Carolina, and is accredited by the Deparment of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 6/10/2013

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

CLIENT: Woodard & Curran **REPORT NUMBER: 75717** **REV: Rev. 0**

PROJECT: Tuchman Hall (Project No: 226333)

Lab Number	Sample Date	Station Location	Analysis	Comments
75717-1	06/06/13	TMH-VBC-FFE4-100	EPA 8082 (PCBs only)	
75717-2	06/06/13	TMH-VBC-FFE7-101	EPA 8082 (PCBs only)	
75717-3	06/06/13	TMH-VBC-FFE7-102	EPA 8082 (PCBs only)	
75717-4	06/06/13	TMH-VBC-FFE7-103	EPA 8082 (PCBs only)	
75717-5	06/06/13	TMH-VBC-FFE7-104	EPA 8082 (PCBs only)	
75717-6	06/06/13	TMH-VBC-FFN4-105	EPA 8082 (PCBs only)	
75717-7	06/06/13	TMH-VBC-FFN4-106	EPA 8082 (PCBs only)	
75717-8	06/06/13	TMH-VBC-FFN4-107	EPA 8082 (PCBs only)	
75717-9	06/06/13	TMH-VBC-FFN4-108	EPA 8082 (PCBs only)	

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC Project #: 75717

Project Location: Tuchman Hall RTN:

This Form provides certifications for the following data set. Laboratory Sample ID Number(s):

75717-1 through 75717-9

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☒	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐	

	Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status	
A	Were all samples received in a condition conistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☒Yes ☐No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒Yes ☐No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒Yes ☐No
D	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☒Yes ☐No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐Yes ☐No ☐Yes ☐No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☒Yes ☐No
	Responses to Questions G, H and I below are required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☒Yes ☐No[1]
	Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.	
H	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	☒Yes ☐No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒Yes ☐No[1]

[1] *All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ **Position:** Laboratory Director

Printed Name: Stephen L. Knollmeyer **Date:** June 10, 2013

analytics environmental laboratory LLC

PCB
DATA SUMMARIES

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 10, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFE4-100

SAMPLE DATA

Lab Sample ID: 75717-1
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.8
Collection Date: 06/06/13
Lab Receipt Date: 06/06/13
Extraction Date: 06/06/13
Analysis Date: 06/07/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	59	U
PCB-1221	59	U
PCB-1232	59	U
PCB-1242	59	U
PCB-1248	59	U
PCB-1254	59	**80**
PCB-1260	59	U
PCB-1262	59	U
PCB-1268	59	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	76	%
Decachlorobiphenyl	83	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB EXT Report

Authorized signature Angelina Richard

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG:
Sample: 75717-1
Data File: M71743.D
Dilution Factor: 1.8

	Column #I	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	72	80	10.5	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

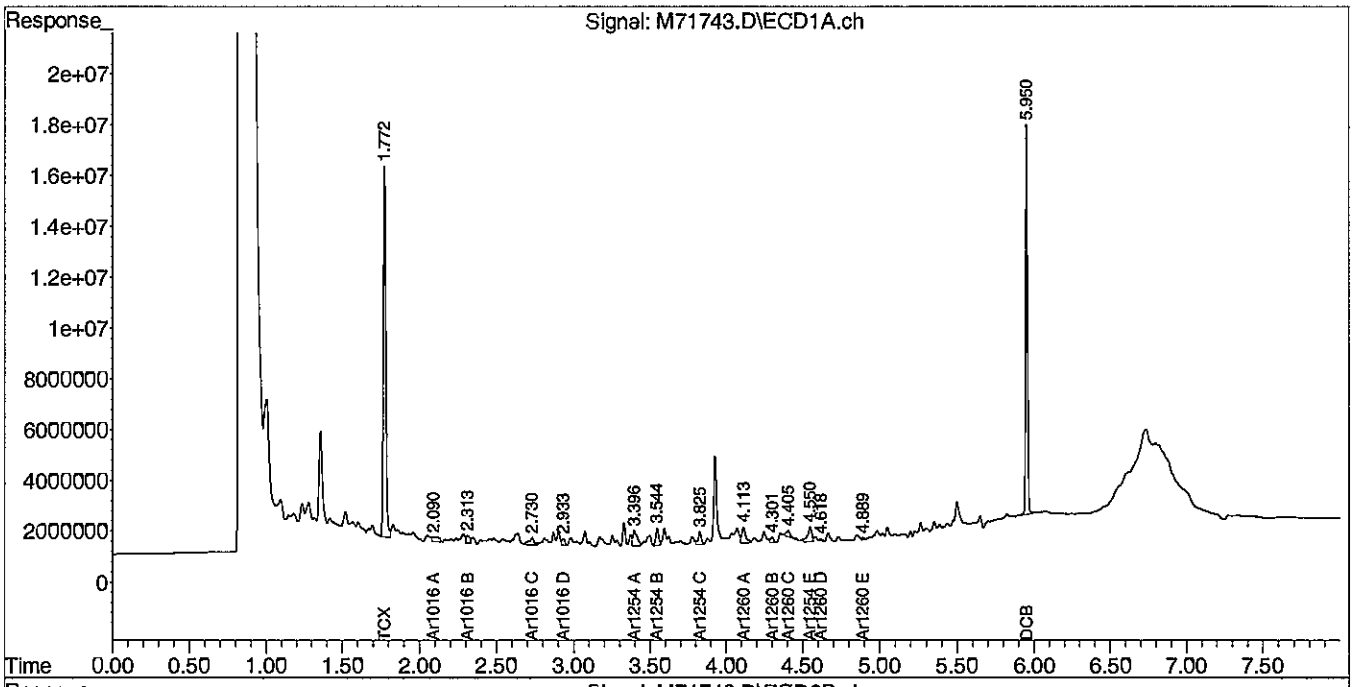
Comments: _____

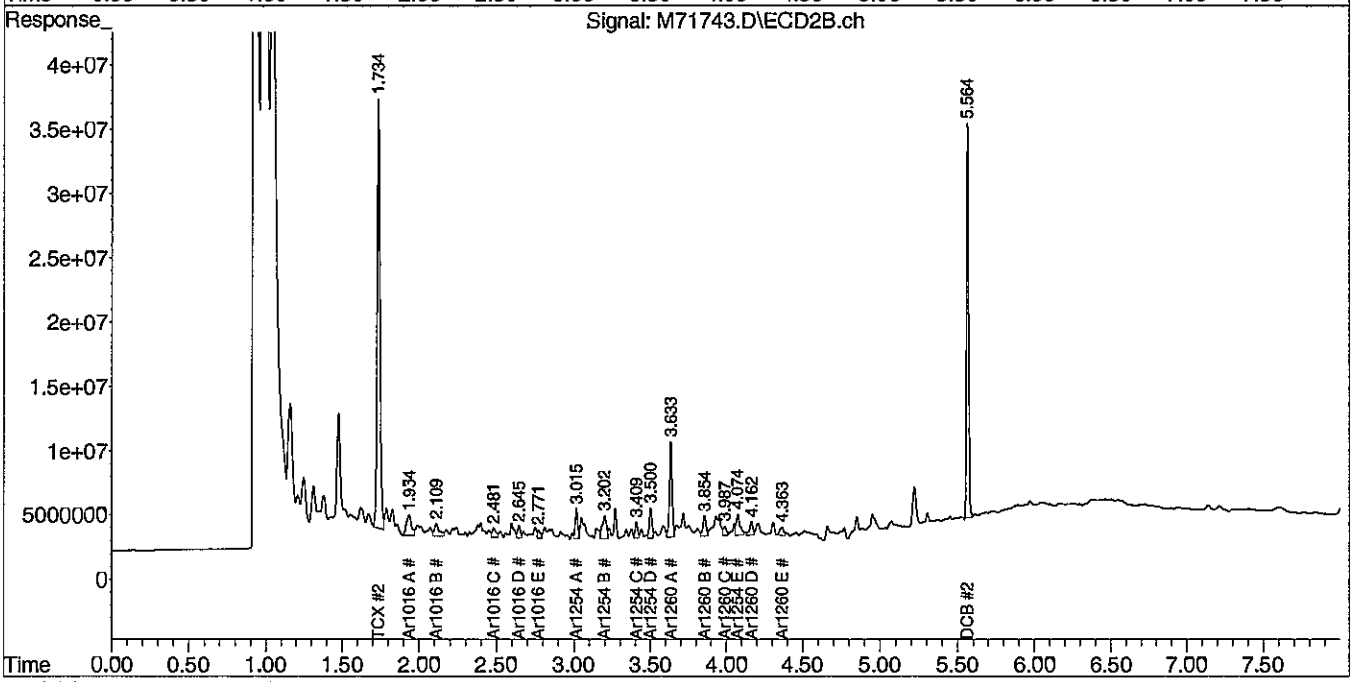
PCB FORM 10

Data Path : C:\msdchem\1\DATA\060713-M\
Data File : M71743.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 Jun 2013 10:49 pm
Operator : JK
Sample : 75717-1
Misc : SOIL
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 14:44:05 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

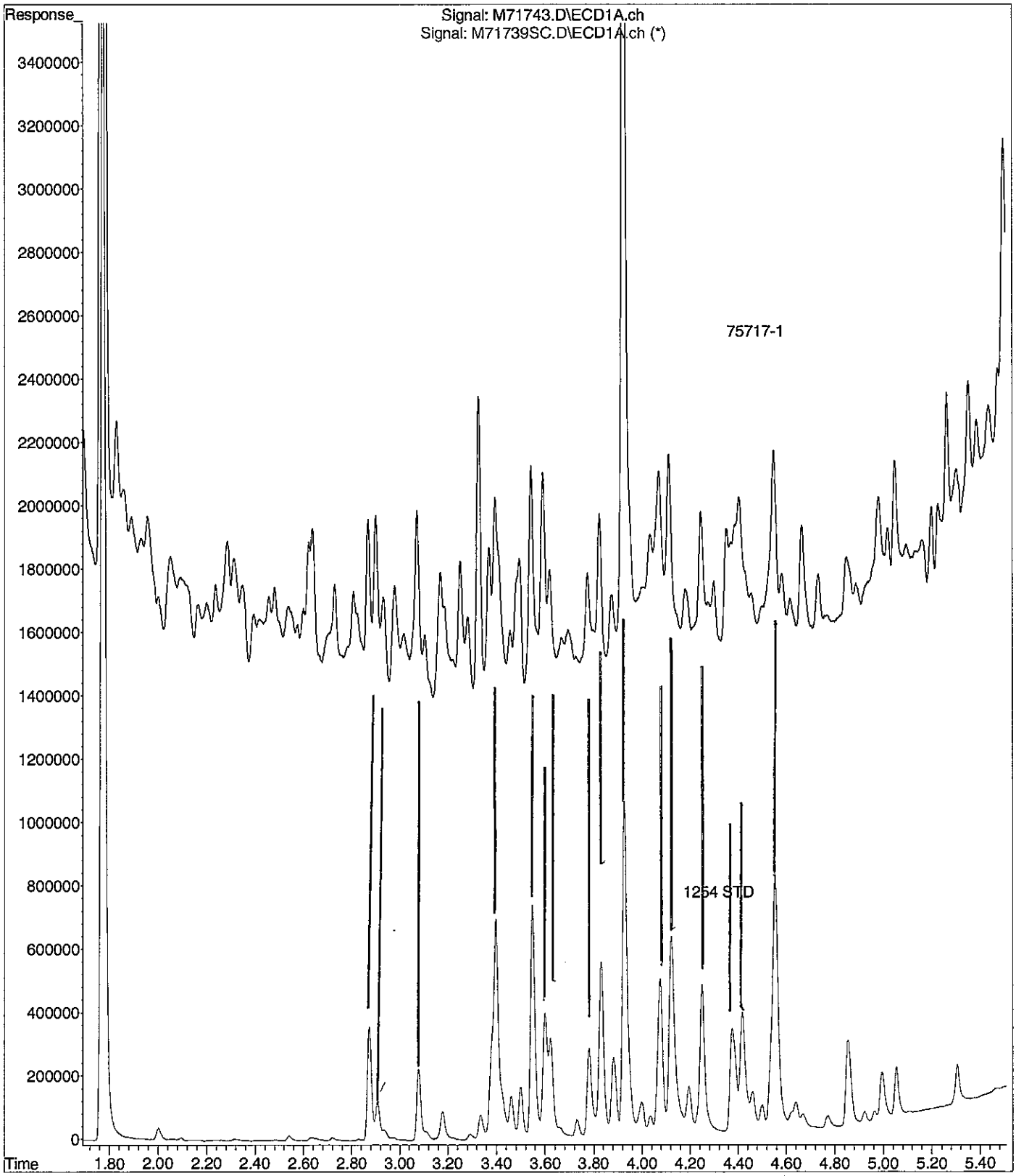
Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





```
File        :C:\msdchem\1\DATA\060713-M\M71743.D
Operator    : JK
Acquired    :  7 Jun 2013  10:49 pm using AcqMethod PCB.M
Instrument :    Instrument M
Sample Name: 75717-1
Misc Info   : SOIL
Vial Number: 22
```

6/10/13
PCB1254



6/10/13

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 10, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFE7-101

SAMPLE DATA

Lab Sample ID: 75717-2
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.9
Collection Date: 06/06/13
Lab Receipt Date: 06/06/13
Extraction Date: 06/06/13
Analysis Date: 06/07/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	63	U
PCB-1221	63	U
PCB-1232	63	U
PCB-1242	63	U
PCB-1248	63	U
PCB-1254	63	U
PCB-1260	63	U
PCB-1262	63	U
PCB-1268	63	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	71	%
Decachlorobiphenyl	70	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

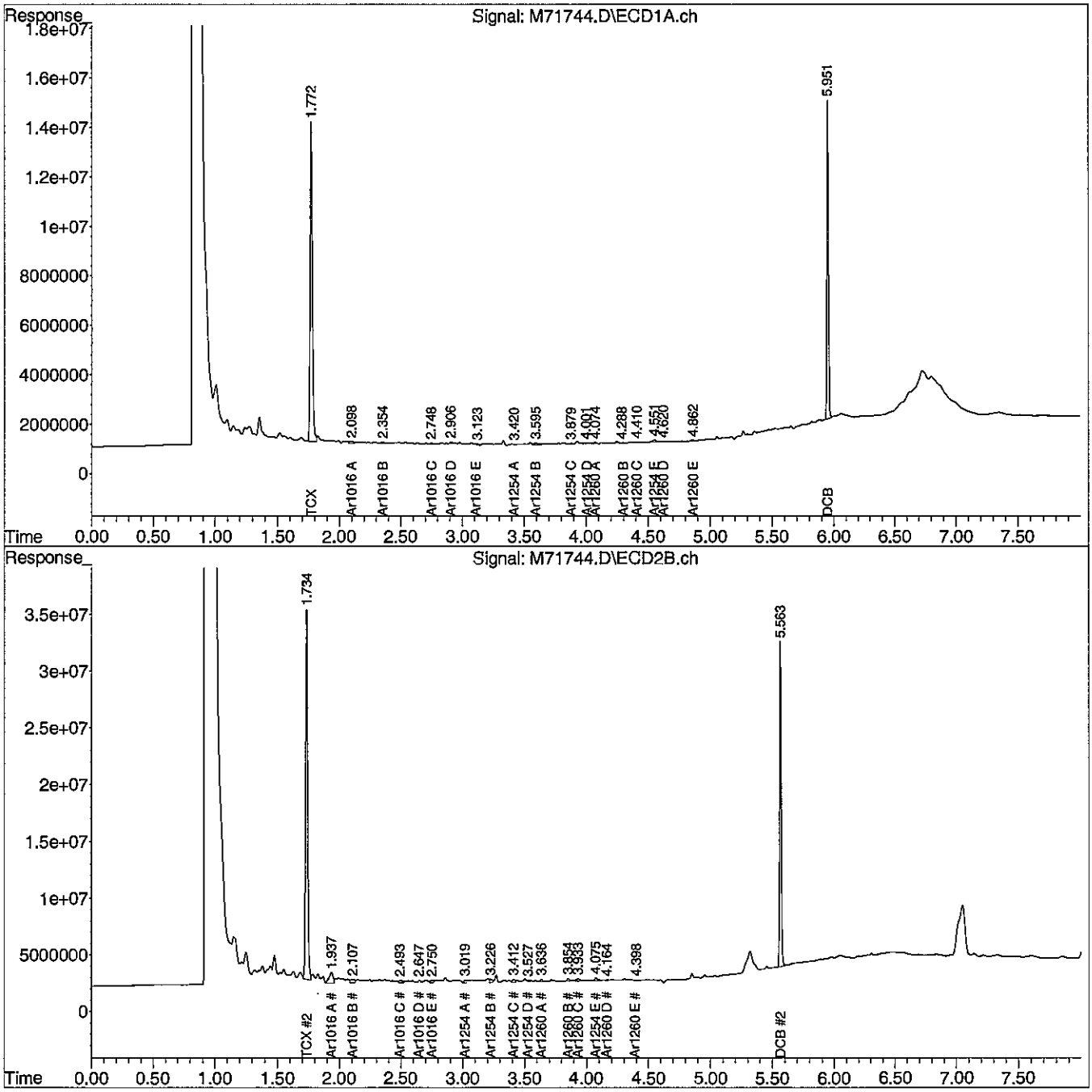
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\060713-M\
Data File : M71744.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 Jun 2013 10:59 pm
Operator : JK
Sample : 75717-2
Misc : SOIL
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 10:11:30 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



analytics environmental laboratory LLC

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603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 10, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFE7-102

SAMPLE DATA

Lab Sample ID: 75717-3
Matrix: Solid
Percent Solid: 97
Dilution Factor: 2.9
Collection Date: 06/06/13
Lab Receipt Date: 06/06/13
Extraction Date: 06/06/13
Analysis Date: 06/07/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	96	U
PCB-1221	96	U
PCB-1232	96	U
PCB-1242	96	U
PCB-1248	96	U
PCB-1254	96	U
PCB-1260	96	U
PCB-1262	96	U
PCB-1268	96	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	215*	%
Decachlorobiphenyl	277*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* Surrogate recovery outside control limits. Sample was reanalyzed with similar results.

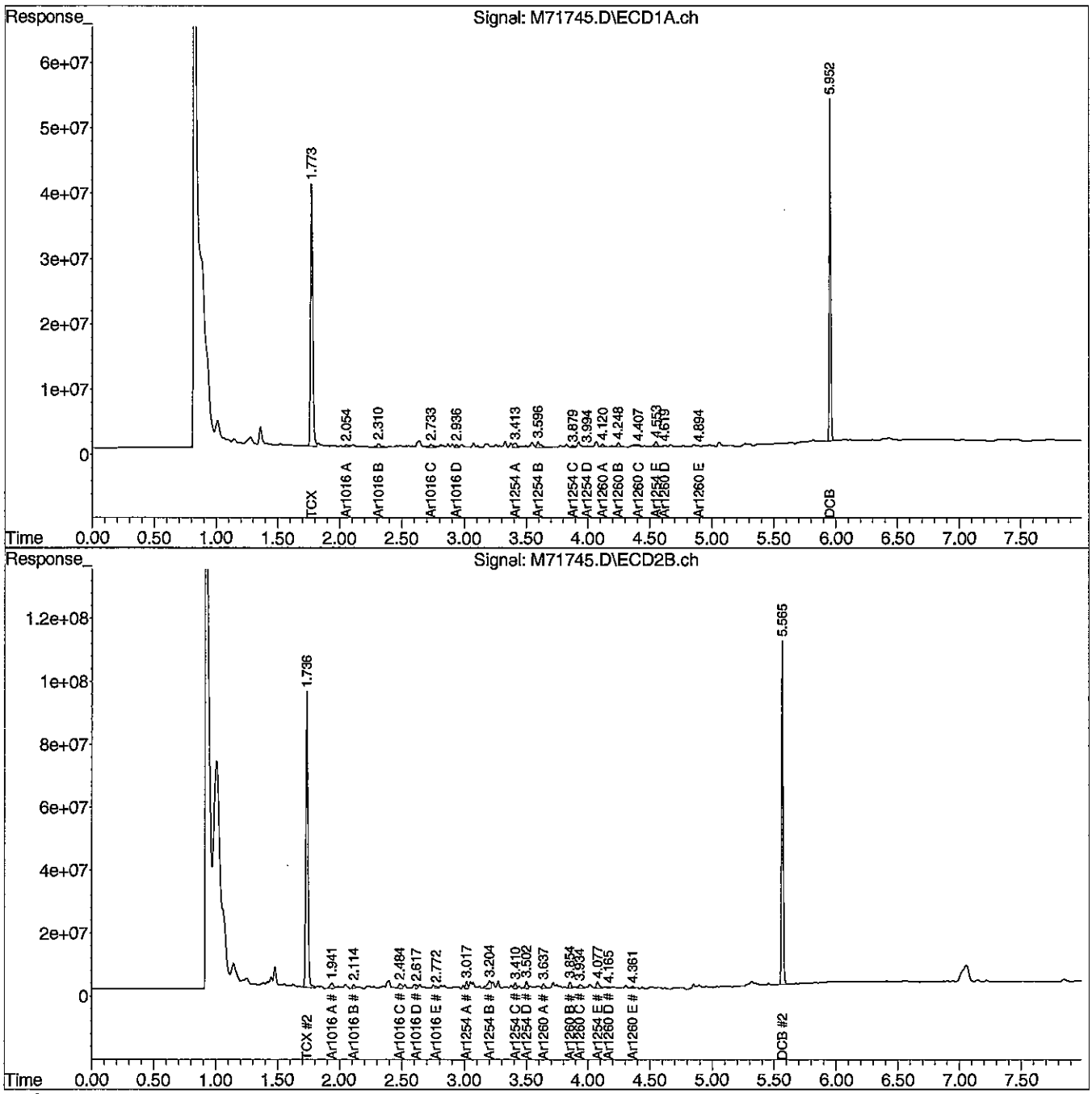
PCB EXT Report

Authorized signature Angelina Richard

Data Path : C:\msdchem\1\DATA\060713-M\
Data File : M71745.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 Jun 2013 11:09 pm
Operator : JK
Sample : 75717-3
Misc : SOIL
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 10:11:32 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



analytics environmental laboratory LLC

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800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 10, 2013

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFE7-103

Lab Sample ID: 75717-4
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.9
Collection Date: 06/06/13
Lab Receipt Date: 06/06/13
Extraction Date: 06/06/13
Analysis Date: 06/07/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	63	U
PCB-1221	63	U
PCB-1232	63	U
PCB-1242	63	U
PCB-1248	63	U
PCB-1254	63	U
PCB-1260	63	U
PCB-1262	63	U
PCB-1268	63	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	88	%
Decachlorobiphenyl	86	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

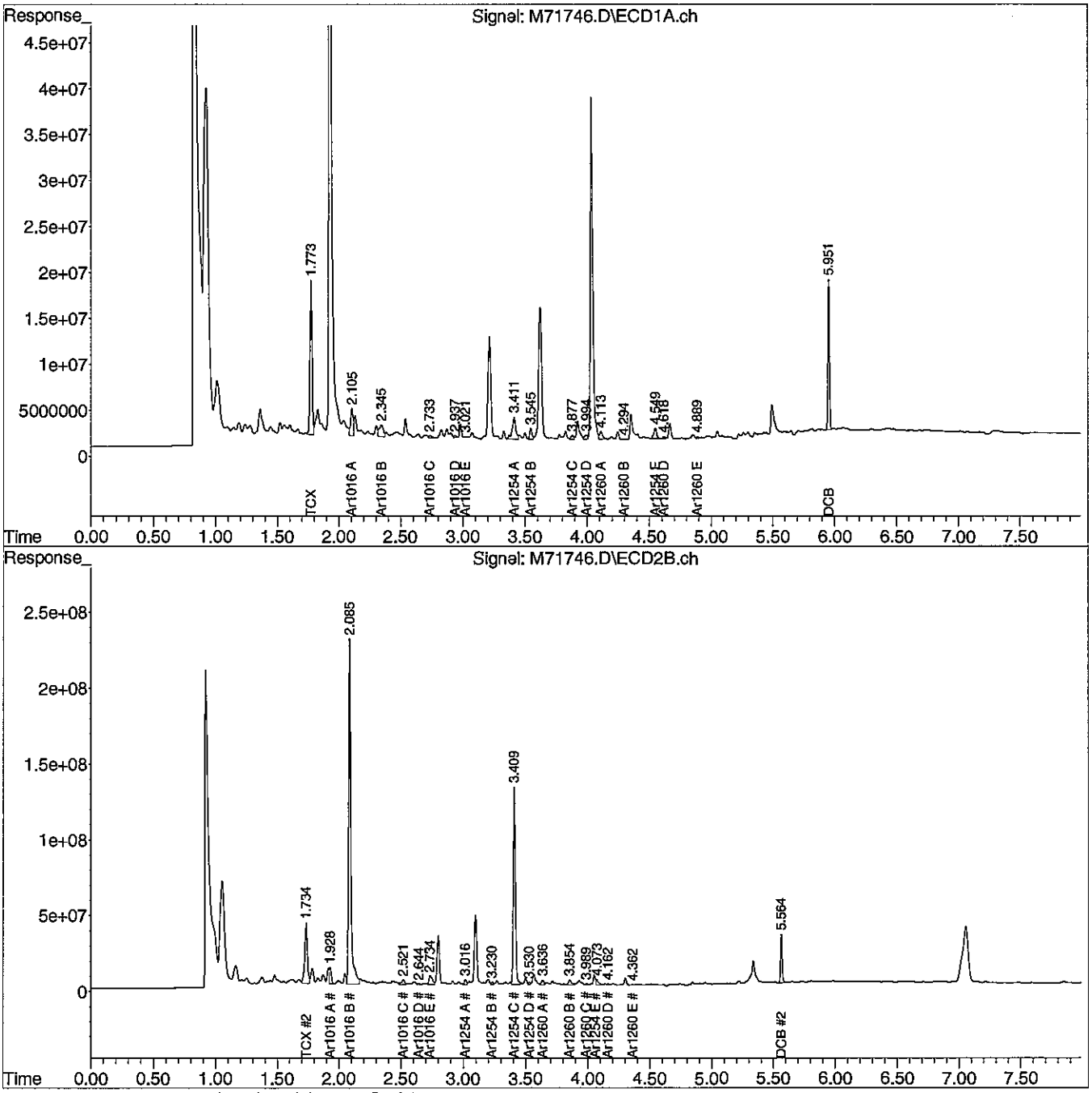
PCB EXT Report

Authorized signature Angela Richard

Data Path : C:\msdchem\1\DATA\060713-M\
Data File : M71746.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 Jun 2013 11:19 pm
Operator : JK
Sample : 75717-4
Misc : SOIL
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 10:11:34 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 10, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFE7-104

SAMPLE DATA

Lab Sample ID: 75717-5
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.9
Collection Date: 06/06/13
Lab Receipt Date: 06/06/13
Extraction Date: 06/06/13
Analysis Date: 06/07/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	63	U
PCB-1221	63	U
PCB-1232	63	U
PCB-1242	63	U
PCB-1248	63	U
PCB-1254	63	U
PCB-1260	63	U
PCB-1262	63	U
PCB-1268	63	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	84	%
Decachlorobiphenyl	87	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

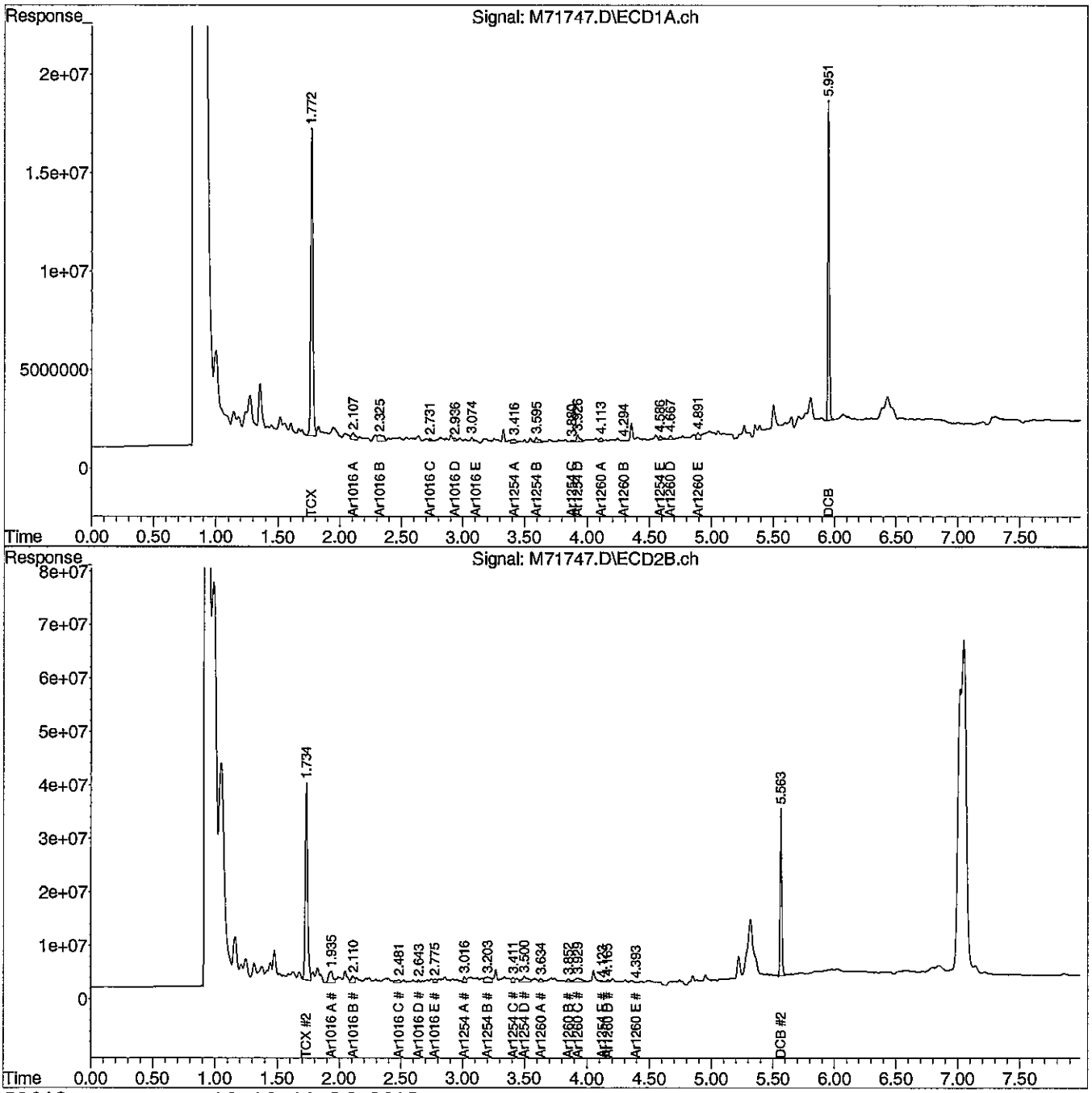
PCB EXT Report

Authorized signature Angeline Richard

Data Path : C:\msdchem\1\DATA\060713-M\
Data File : M71747.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 Jun 2013 11:29 pm
Operator : JK
Sample : 75717-5
Misc : SOIL
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 10:11:36 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 10, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFN4-105

SAMPLE DATA

Lab Sample ID: 75717-6
Matrix: Solid
Percent Solid: 99
Dilution Factor: 2.0
Collection Date: 06/06/13
Lab Receipt Date: 06/06/13
Extraction Date: 06/06/13
Analysis Date: 06/07/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	66	U
PCB-1221	66	U
PCB-1232	66	U
PCB-1242	66	U
PCB-1248	66	U
PCB-1254	66	U
PCB-1260	66	U
PCB-1262	66	U
PCB-1268	66	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	85	%
Decachlorobiphenyl	86	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

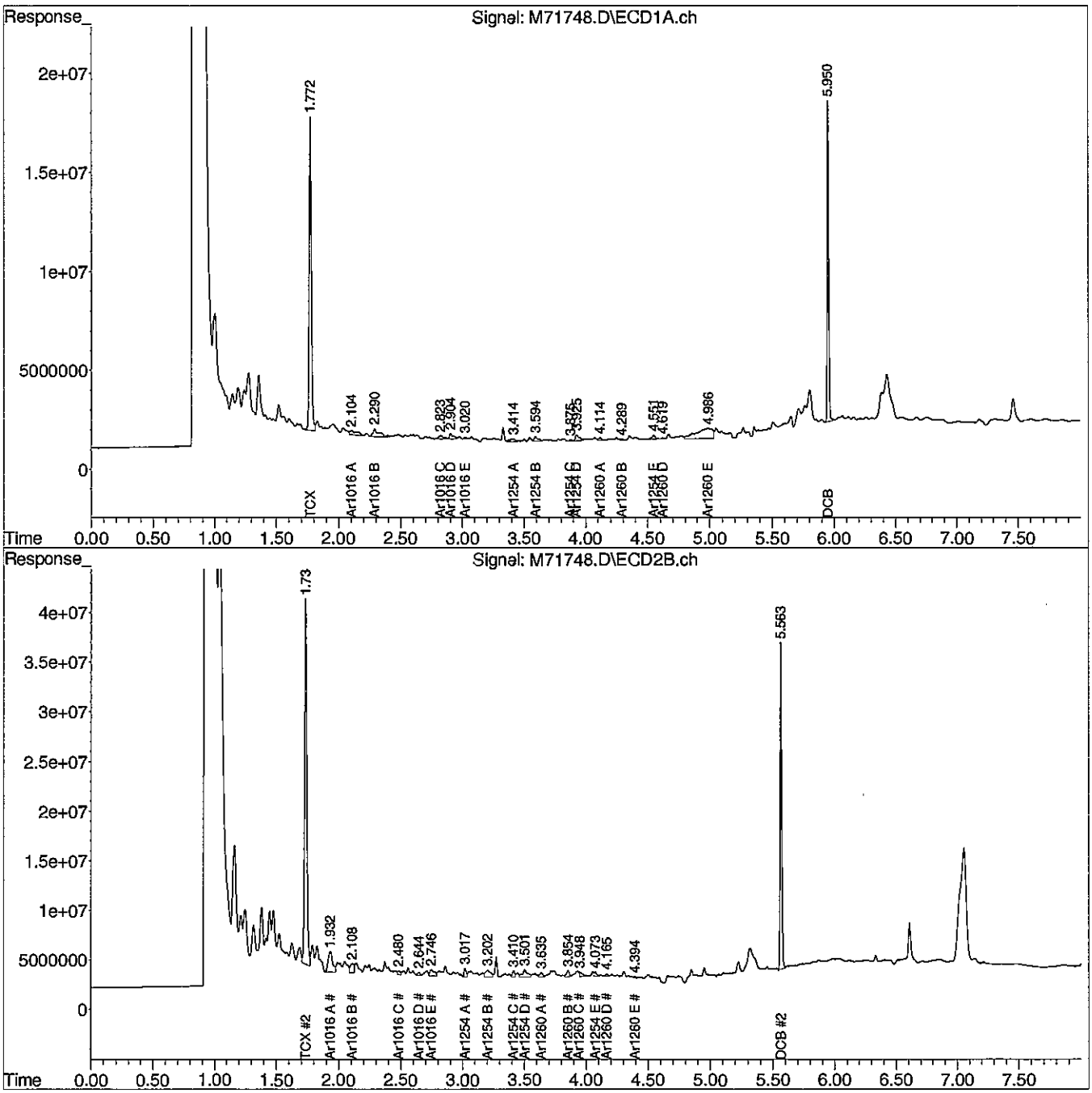
PCB EXT Report

Authorized signature Angelina Richard

Data Path : C:\msdchem\1\DATA\060713-M\
Data File : M71748.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 Jun 2013 11:39 pm
Operator : JK
Sample : 75717-6
Misc : SOIL
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 10:11:38 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 10, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFN4-106

SAMPLE DATA

Lab Sample ID: 75717-7
Matrix: Solid
Percent Solid: 96
Dilution Factor: 10
Collection Date: 06/06/13
Lab Receipt Date: 06/06/13
Extraction Date: 06/06/13
Analysis Date: 06/10/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	333	U
PCB-1221	333	U
PCB-1232	333	U
PCB-1242	333	U
PCB-1248	333	U
PCB-1254	333	**4270**
PCB-1260	333	U
PCB-1262	333	U
PCB-1268	333	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	118	%
Decachlorobiphenyl	109	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB EXT Report

Authorized signature Angelina Richard

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides 1
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides 11
Column ID: 0.25 mm

SDG:
Sample: 75717-7,,1;5
Data File: M71769.D
Dilution Factor: 10.1

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	4268	3885	9.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

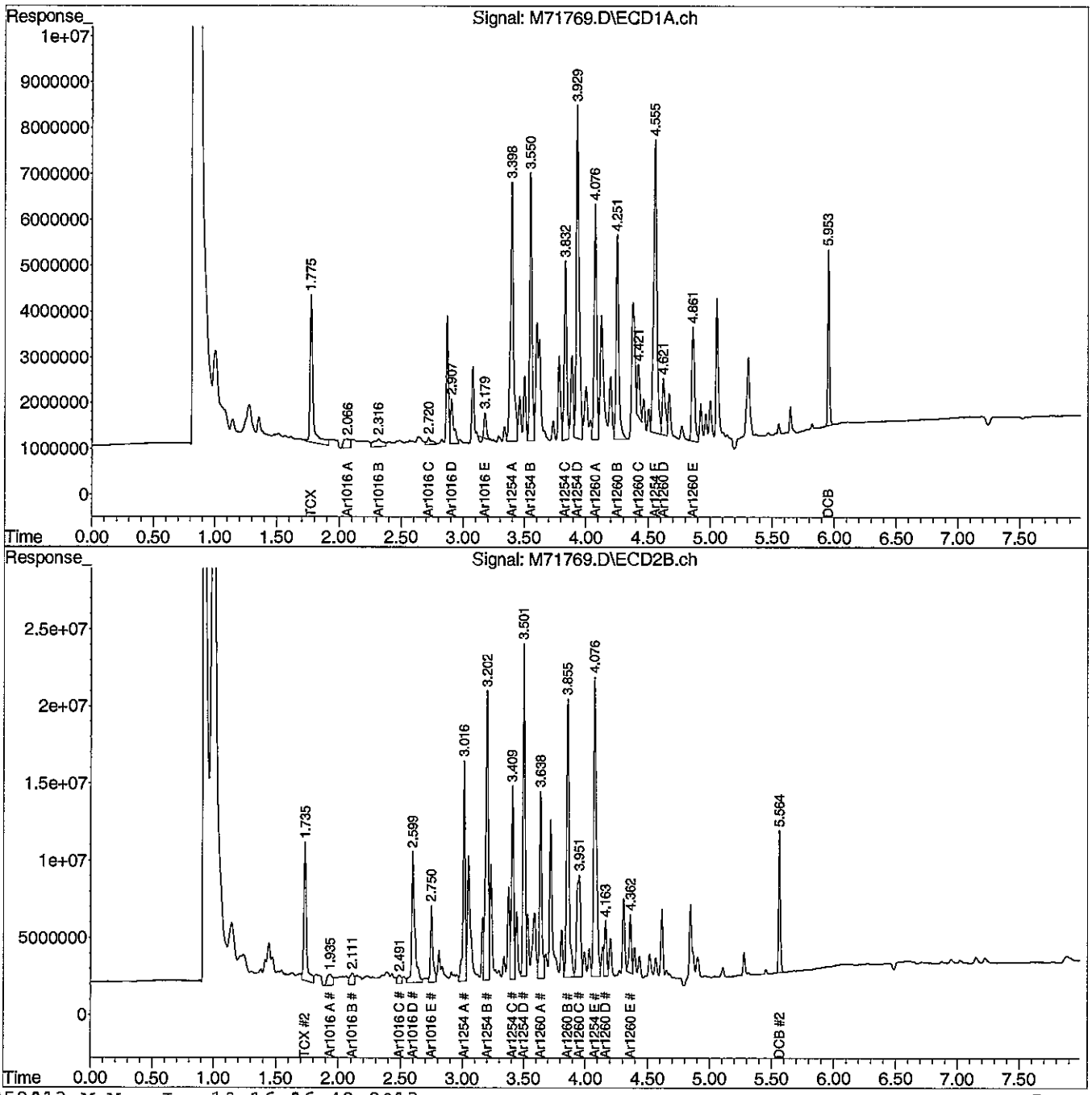
Comments: _____

PCB FORM 10

Data Path : C:\msdchem\1\DATA\061013-M\
Data File : M71769.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 10 Jun 2013 3:34 pm
Operator : MG
Sample : 75717-7,,1;5
Misc :
ALS Vial : 10 Sample Multiplier: 1

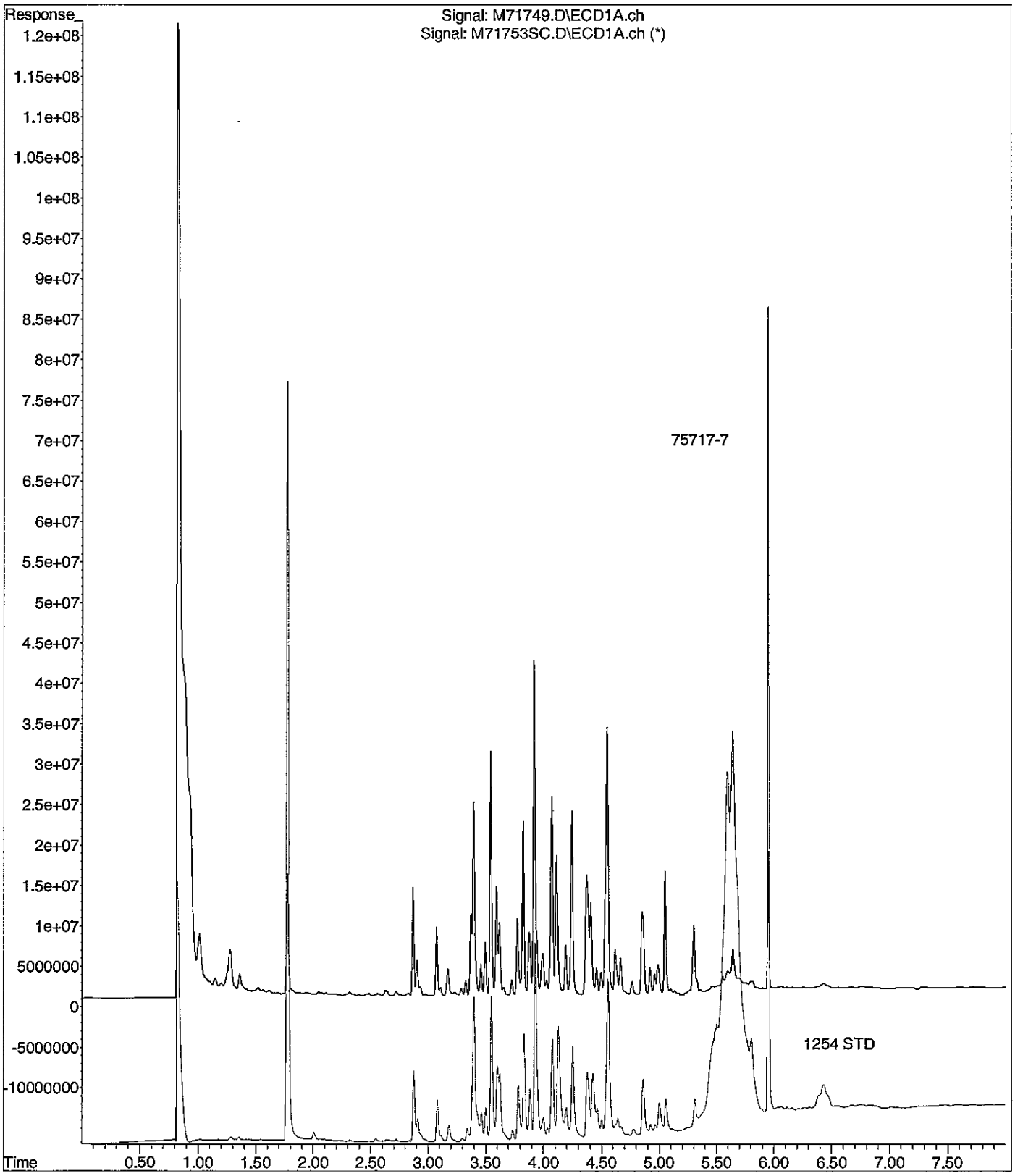
Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 16:06:27 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\060713-M\M71749.D
Operator : JK
Acquired : 7 Jun 2013 11:50 pm using AcqMethod PCB.M
Instrument : Instrument M
Sample Name: 75717-7
Misc Info : SOIL
Vial Number: 28

D 6/10/13
1254



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June 10, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFN4-107

SAMPLE DATA

Lab Sample ID: 75717-8
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.8
Collection Date: 06/06/13
Lab Receipt Date: 06/06/13
Extraction Date: 06/06/13
Analysis Date: 06/08/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	59	U
PCB-1221	59	U
PCB-1232	59	U
PCB-1242	59	U
PCB-1248	59	U
PCB-1254	59	U
PCB-1260	59	U
PCB-1262	59	U
PCB-1268	59	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	83	%
Decachlorobiphenyl	85	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

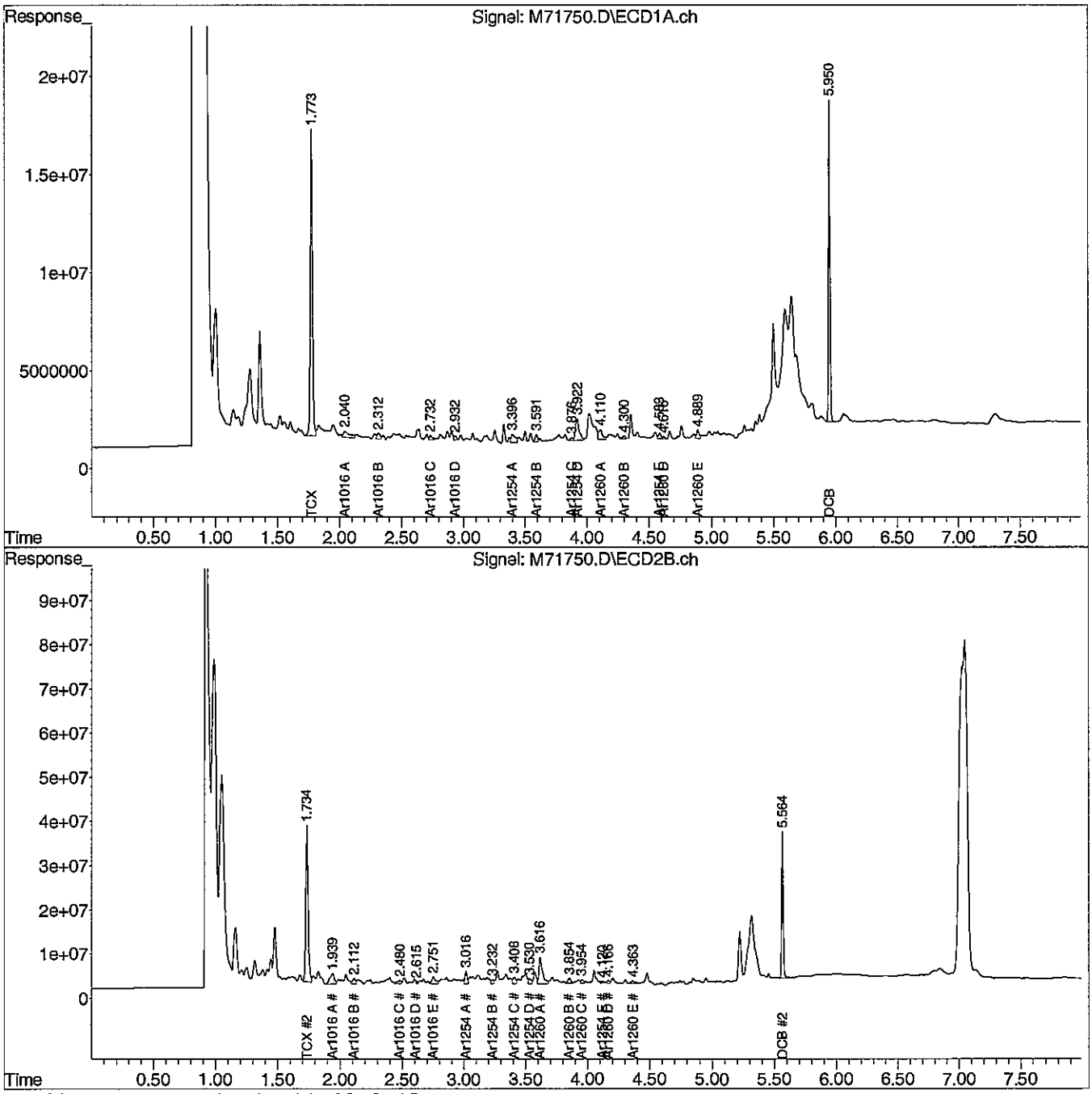
PCB EXT Report

Authorized signature Angelina Richard

Data Path : C:\msdchem\1\DATA\060713-M\
Data File : M71750.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 8 Jun 2013 12:00 am
Operator : JK
Sample : 75717-8
Misc : SOIL
ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 10:11:42 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 10, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFN4-108

SAMPLE DATA

Lab Sample ID: 75717-9
Matrix: Solid
Percent Solid: 100
Dilution Factor: 1.8
Collection Date: 06/06/13
Lab Receipt Date: 06/06/13
Extraction Date: 06/06/13
Analysis Date: 06/08/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	59	U
PCB-1221	59	U
PCB-1232	59	U
PCB-1242	59	U
PCB-1248	59	U
PCB-1254	59	U
PCB-1260	59	U
PCB-1262	59	U
PCB-1268	59	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	86	%
Decachlorobiphenyl	87	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

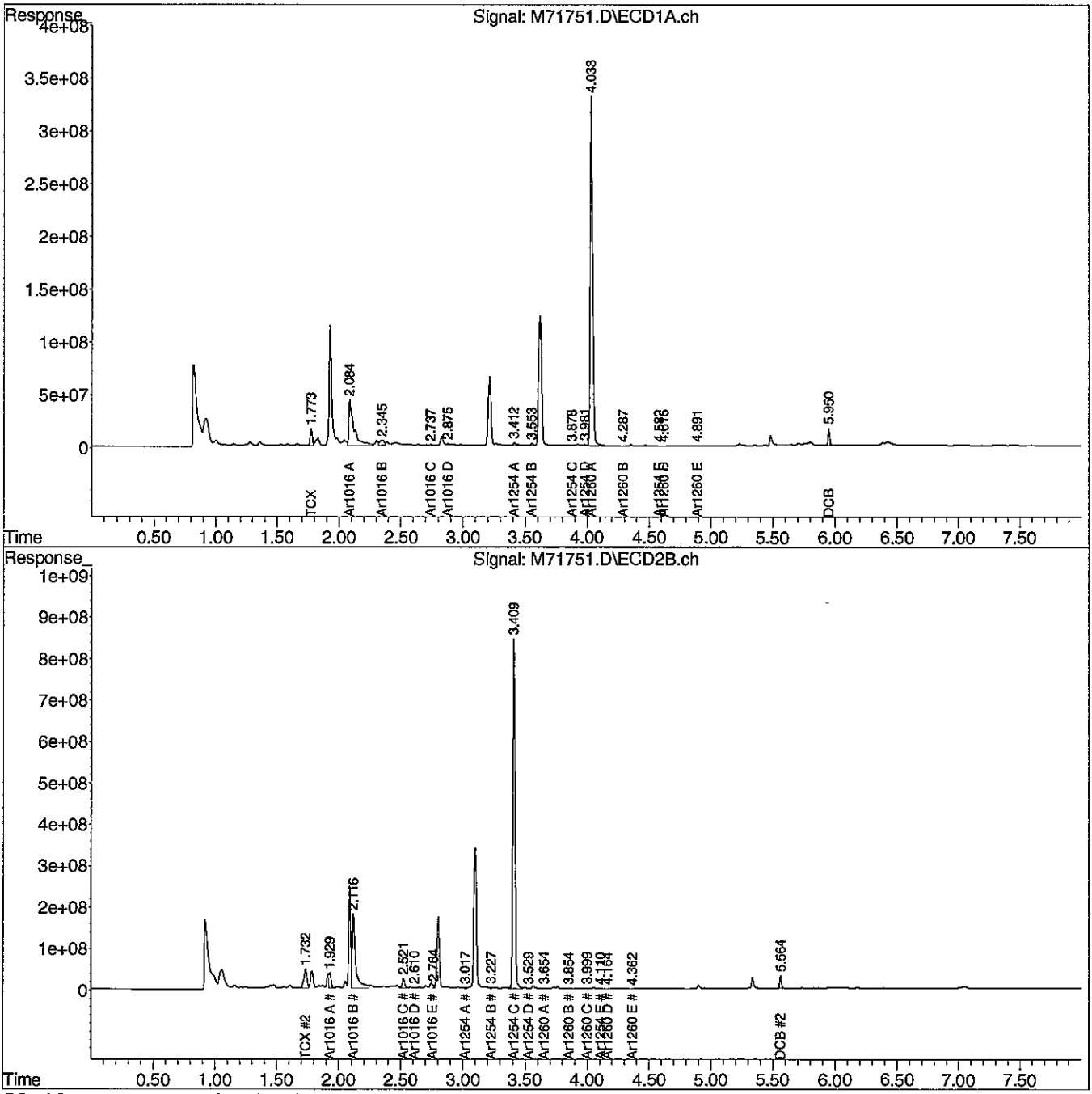
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\060713-M\
Data File : M71751.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 8 Jun 2013 12:10 am
Operator : JK
Sample : 75717-9
Misc : SOIL
ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 10:11:44 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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PCB
QC FORMS

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June 10, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B060613PSOX RR
Matrix: Soil
Percent Solid: 100
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 06/06/13
Analysis Date: 06/07/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	83	%
Decachlorobiphenyl	84	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

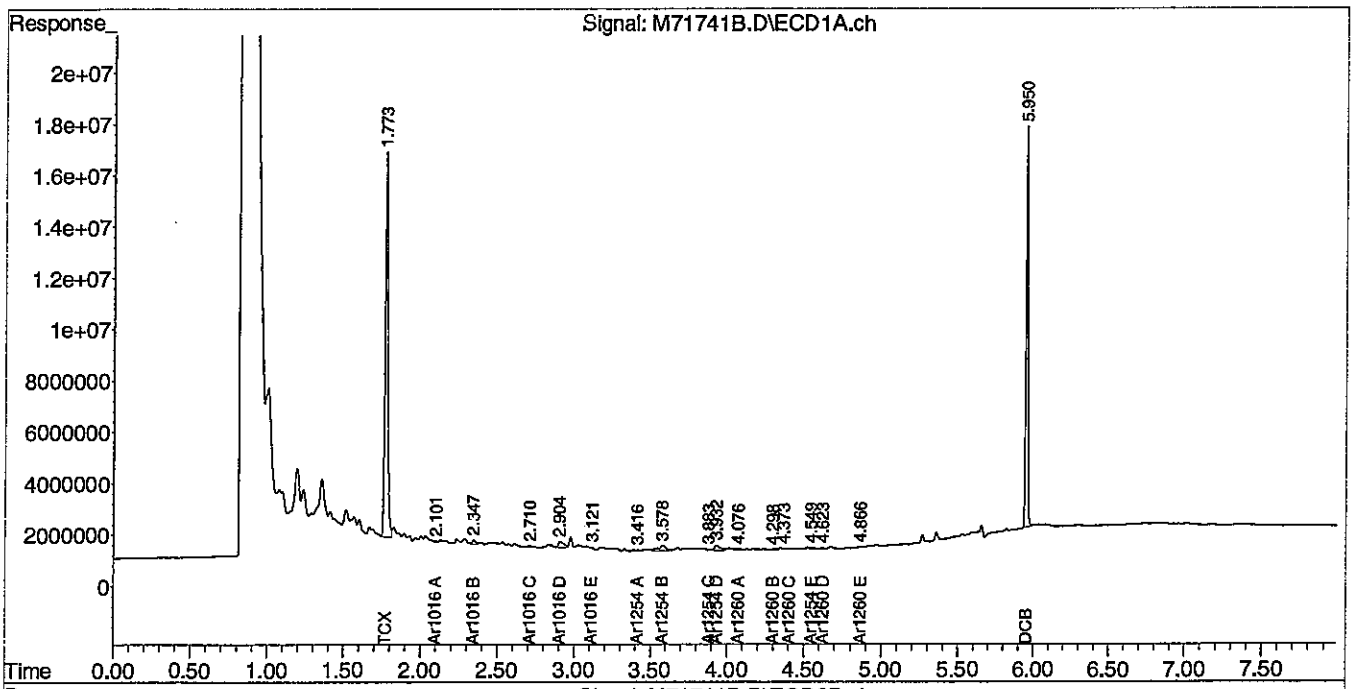
PCB EXT Report

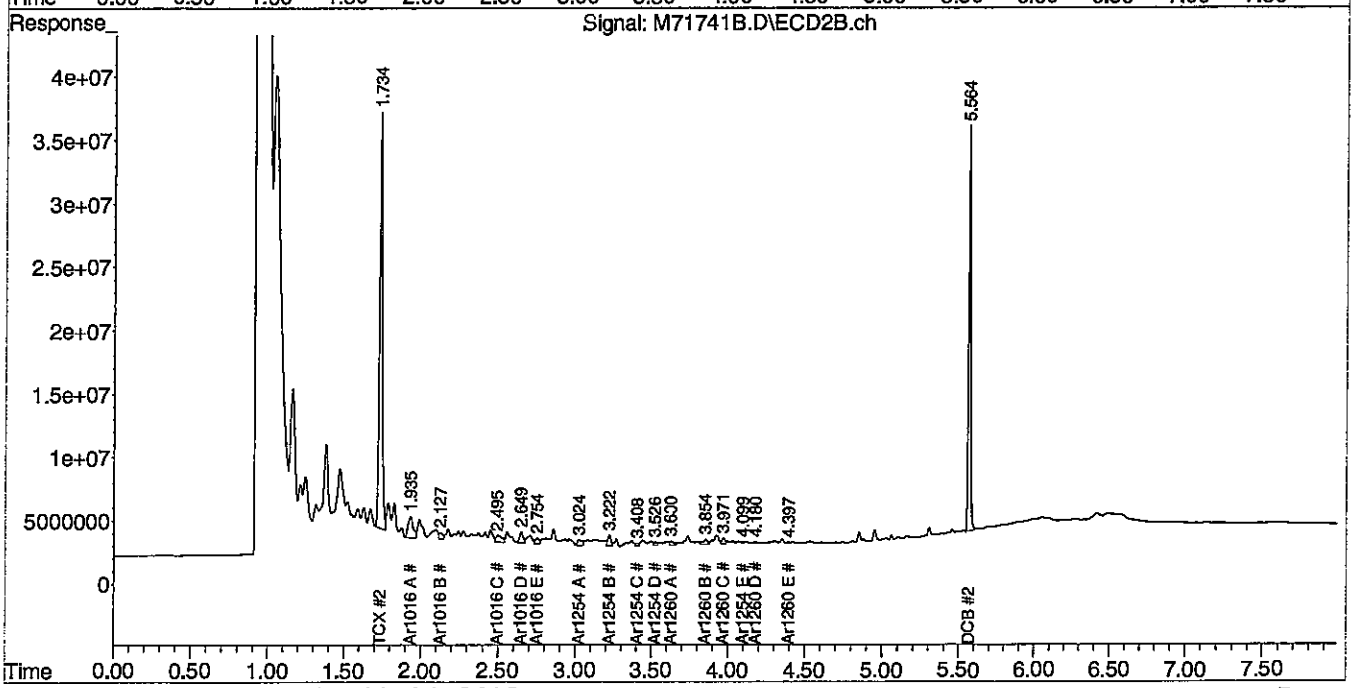
Authorized signature Angelina Richard

Data Path : C:\msdchem\1\DATA\060713-M\
Data File : M71741B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 Jun 2013 10:29 pm
Operator : JK
Sample : B060613PSOX,RR
Misc : SOIL
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 10:11:24 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





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June 10, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B060613PSOX RR
Matrix: Soil
Percent Solid: 100
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 06/06/13
Analysis Date: 06/10/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	93	%
Decachlorobiphenyl	104	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

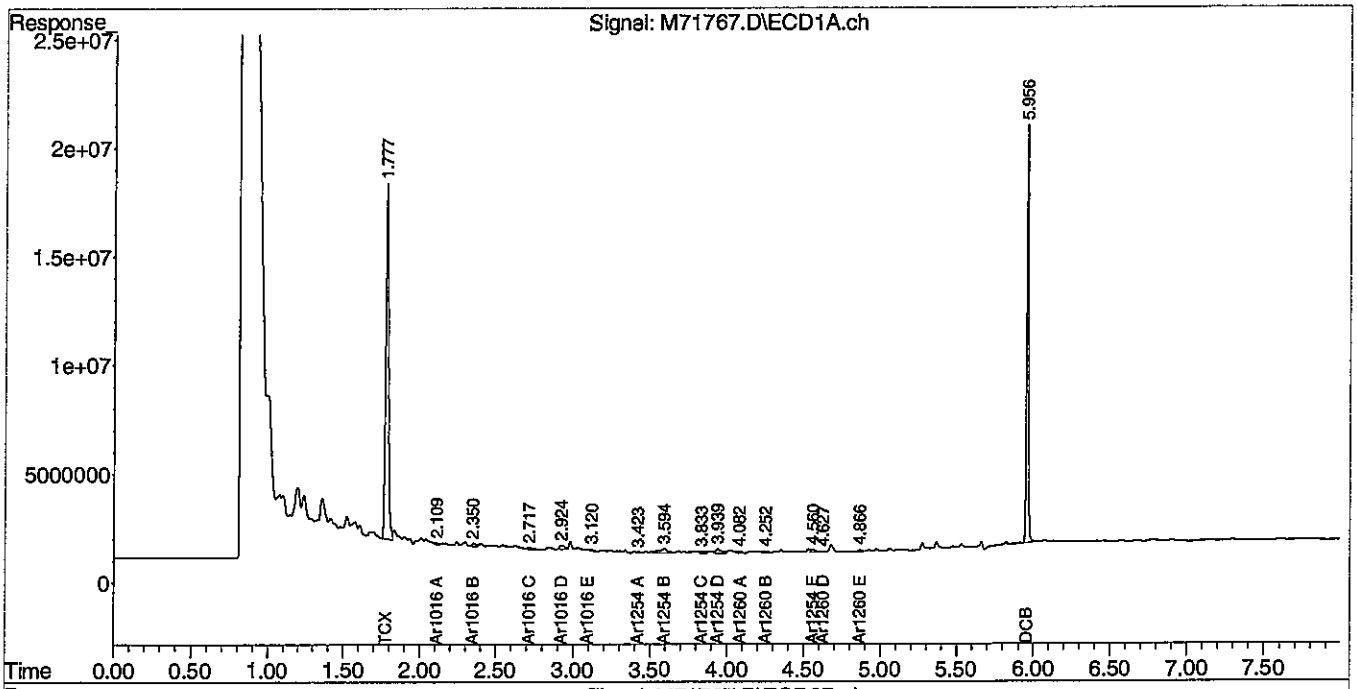
PCB EXT Report

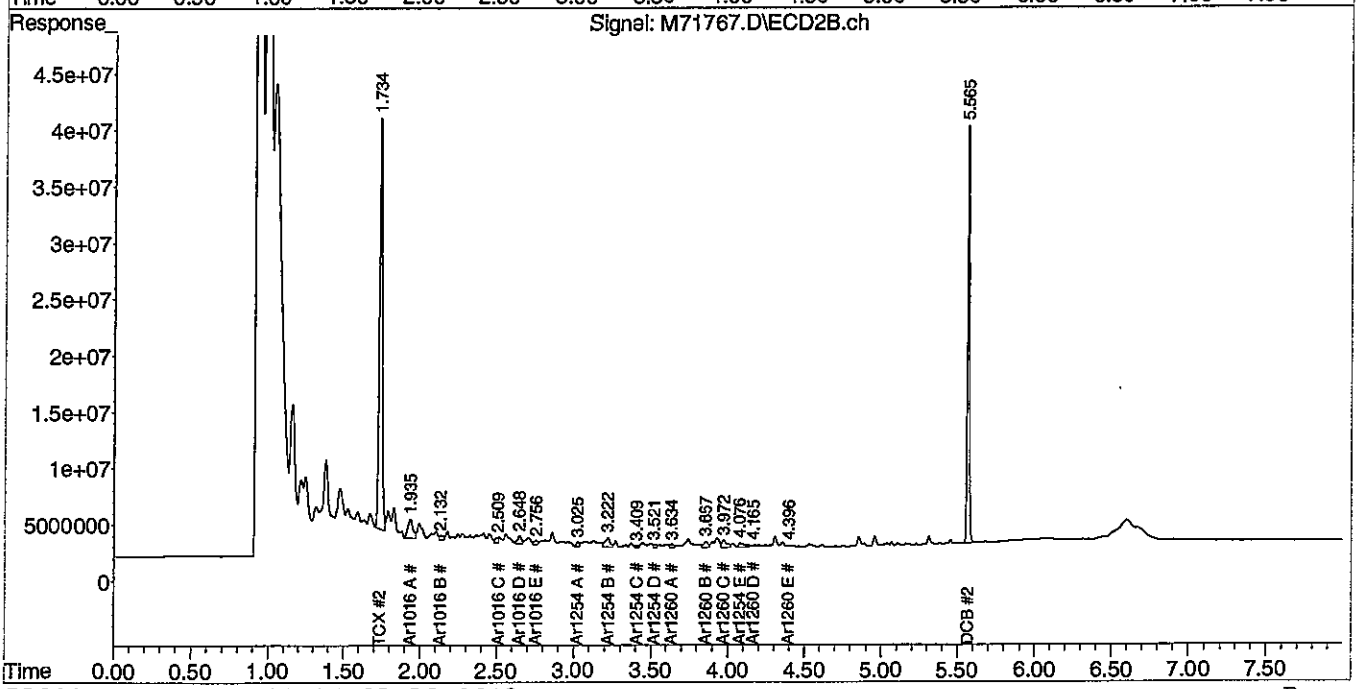
Authorized signature Angela Richard

Data Path : C:\msdchem\1\DATA\061013-M\
Data File : M71767.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 10 Jun 2013 3:14 pm
Operator : MG
Sample : B060613PSOX,RR2
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 10 16:03:38 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides 1 SDG:
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B060613PSOX,RR	83		84		75		67	
75717-1	76		83		76		64	
75717-2	71		70		69		60	
75717-3	215	*	277	*	207	*	227	*
75717-4	88		86		105		67	
75717-5	84		87		86		67	
75717-6	85		86		82		67	
75717-8	83		85		82		70	
75717-9	86		87		136		65	

		Lower Limit	Upper Limit
SMC #1 =	TCX	30	150
SMC #2 =	DCB	30	150

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG:

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B060613PSOX,RR2	93		104		83		80	
75717-7,,1;5	118		109		115		103	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG:

Non-spiked sample: B060613PSOX

Spike: L060613PSOX

Spike duplicate: LD060613PSOX

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	168	84		209	105		22.1	
PCB 1260	200	200	60	130	30	0	167	83		174	87		4.4	
PCB 1016 #2	200	200	65	140	30	0	166	83		161	81		2.9	
PCB 1260 #2	200	200	60	130	30	0	163	82		166	83		1.5	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

CHAIN OF CUSTODIES

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 4 03/28/08

Samples were:
1) Shipped or hand-delivered
2) Temp blank °C 5.4°C
3) Received in good condition (Y) or N
4) pH checked by: N/A
5) Labels checked by: 6/6/13

Project#: 226333 Proj. Name: Tuchman Hall
Company: Woodard + Curran
Contact: Amy Martin
Address: 41 Hutchins Drive
Portland ME
Phone: PO# Quote #
Sampler (Signature):

Matrix Key: C = Concrete, WP = Wipe, WW = Wastewater, SW = Surface Water, GW = Groundwater, DW = Drinking Water, S = Soil/Sludge, O = Oil, E = Extract, X = Other

Conteiner Key: P=plastic G=glass

Preservetion: Unpres, 4° C, HNO_3, H_2SO_4, HCL, Methanol, Other

	Stetion Identification	Semple Date	Semple Time	Analysis	Matrix	Containr number/typ	pH	Analytics Sample #
TMH-	VBC-FFE4-100	6/6/13	1315	PCBs	C	1 G		75717-1
TMH-	VBC-FFE7-101		1430					2
TMH-	VBC-FFE7-102		1435					3
TMH-	VBC-FFE7-103		1440					4
TMH-	VBC-FFE7-104		1445					5
TMH-	VBC-FFN4-105		1450					6
TMH-	VBC-FFN4-106		1455					7
TMH-	VBC-FFN4-107		1505					8
TMH-	VBC-FFN4-108	6/6/13	1515	PCBs	C	1 G		9

Received By: Time: 1500 Date: 6/6/13

Email Results to: jhamel@woodardcurran.com amartin@ jrussell@

Comments / Instructions: PCBs 8082 Soxhlet

Project Requiremants:

Report Type: [X] MCP [X] Level II [ ] CTRC [ ] Level III [ ] DOD [ ] Level IV [ ] Standard *Fee may apply

State: [ ] NH [X] MA [ ] ME [ ] CT [ ] RI Other:

State Standard: ____ (eg. S-1 or GW-1)

EDD Raquired: Y* N

Type: __

Page 1 of 1

Turnaround Request: Standard [ ] Due Date ____ Priority [X] Due Date 48hr TAT

Lab Approval Required

Analytics\AEL Documents\AEL COC

ANALYTICS SAMPLE RECEIPT CHECKLIST

analytics environmental laboratory LLC

AEL LAB#: 75717 COOLER NUMBER: 28

CLIENT: WOODARD NUMBER OF COOLERS: 1

PROJECT: TUCKMON HALL

A: PRELIMINARY EXAMINATION:

1. Cooler received by(initials): DA DATE COOLER RECEIVED/OPENED: 6/6/13

2. Circle one: (Hand delivered (If so, skip 3)) Shipped

3. Did cooler come with a shipping slip? Y (N)

3a. Enter carrier name and airbill number here: _____

4. Were custody seals on the outside of cooler? Y (N)
How many & where: _____ Seal Date: _____ Seal Name: _____

5. Did the custody seals arrive unbroken and intact upon arrival? Y N A

6. COC#: _____

7. Were Custody papers filled out properly (ink,signed, legible, project information etc)? (Y) N

8. Were custody papers sealed in a plastic bag? (Y) N

9. Did you sign the COC in the appropriate place? (Y) N

10. Was enough ice used to chill the cooler? (Y) N Temp. of cooler: 5.4°C

B. Log-In: Date samples were logged in: 6/6/13 By: DA

11. Were all bottles sealed in separate plastic bags? Y (N)

12. Did all bottles arrive unbroken and were labels in good condition? (Y) N

13. Were all bottle labels complete(ID,Date,time,etc.) (Y) N

14. Did all bottle labels agree with custody papers? (Y) N

15. Were the correct containers used for the tests indicated: (Y) N

16. Were samples received at the correct pH? Y N A

17. Was sufficient amount of sample sent for the tests indicated? (Y) N

18. Were all samples submitted within holding time? (Y) N

19. Were all containers used within AEL 's expiration date?** Y N A

20. Were VOA samples absent of greater than pea-sized bubbles? Y N* A
(Note:Pea-sized bubbles or smaller are acceptable and are not considered to adversely affect volatiles data.)

*If NO, List Sample ID's, Lab #s: _____

When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): _____ Date: 6.6.13

**The expiration date is recommended by Analytics Environmental Laboratory and not the method. Therefore this does not mean that the results are non-compliant.

environmental laboratory LLC

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www.analyticslab.com

June 13, 2013

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

RE: Analytical Results Case Narrative
Analytics # 75734
Tuchman Hall Project No: 226333

Dear Ms. Martin;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082A.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
MCP Cover Pages
PCB Form 1 Data Sheet for Samples
Chromatograms
PCB Form 10 Confirmation Results
PCB Blanks and Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON-CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

PCBs by EPA Method 8082:
No results were reported below the quantitation limit.

Sample 75734-5 had an inteference on column#2 that prevented the determination of Tetrachloro-m-xylene surrogate result. Surrogate results were reported off of column#1.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen L. Knollmeyer
Laboratory Director

environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

Report Number: 75734

Revision: Rev. 0

Re: Tuchman Hall (Project No: 226333)

Enclosed are the results of the analyses on your sample(s). Samples were received on 10 June 2013 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
75734-1	06/07/13	TMH-VBC-FFN7-109	EPA 8082 (PCBs only)	
75734-2	06/07/13	TMH-VBC-FFW2-110	EPA 8082 (PCBs only)	
75734-3	06/07/13	TMH-VBC-FFW2-111	EPA 8082 (PCBs only)	
75734-4	06/07/13	TMH-VBC-FFW2-112	EPA 8082 (PCBs only)	
75734-5	06/07/13	TMH-VBC-FFW2-113	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Deparment of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature _____

Stephen L. Knollmeyer Lab. Director

Date 6/12/2013

analytics environmental laboratory LLC

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603-436-5111 Fax 603-430-2151
800-929-9906

MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC Project #: 75734

Project Location: Tuchman Hall RTN:

This Form provides certifications for the following data set. Laboratory Sample ID Number(s):

75734-1, 75734-2, 75734-3, 75734-4, 75734-5

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☒	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐	

	Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status	
A	Were all samples received in a condition conistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/ analyzed within method holding times?	☒Yes ☐No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒Yes ☐No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒Yes ☐No
D	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☒Yes ☐No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐Yes ☐No ☐Yes ☐No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☒Yes ☐No
	Responses to Questions G, H and I below are required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☒Yes ☐No[1]
	Data User Note: Data that achieve "Preseumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.	
H	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	☒Yes ☐No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒Yes ☐No[1]

[1] *All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Melissa Gulli **Position:** Assistant Laboratory Director

Printed Name: Melissa Gulli **Date:** June 13, 2013

analytics environmental laboratory LLC

PCB
DATA SUMMARIES

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:PCB.doc

analytics environmental laboratory LLC

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Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 12, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFN7-109

SAMPLE DATA

Lab Sample ID: 75734-1
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.4
Collection Date: 06/07/13
Lab Receipt Date: 06/10/13
Extraction Date: 06/10/13
Analysis Date: 06/11/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	46	U
PCB-1221	46	U
PCB-1232	46	U
PCB-1242	46	U
PCB-1248	46	U
PCB-1254	46	U
PCB-1260	46	U
PCB-1262	46	U
PCB-1268	46	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	92	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

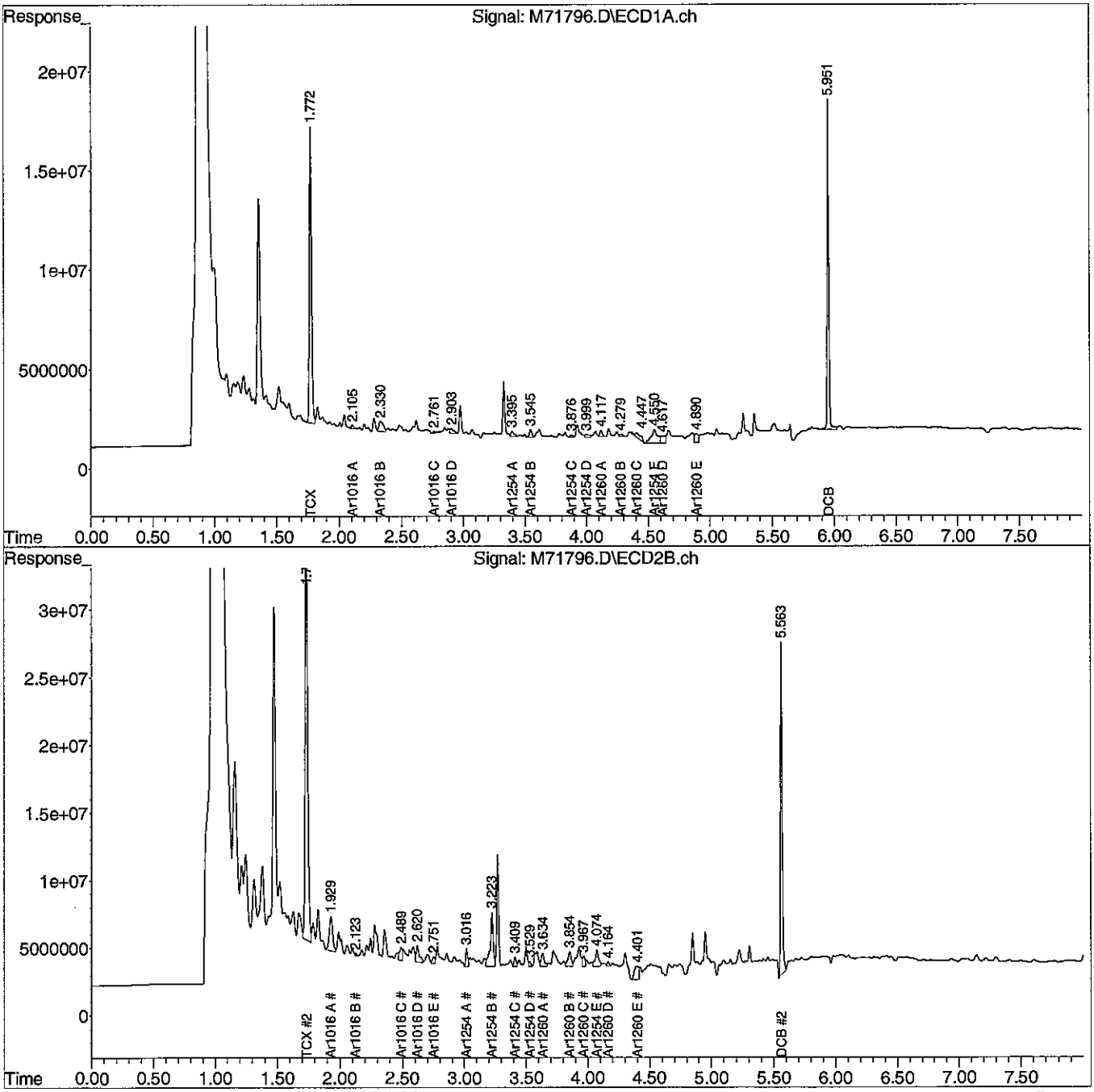
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061113-M\
Data File : M71796.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 11 Jun 2013 3:59 pm
Operator : JK
Sample : 75734-1
Misc : SOIL
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 12 11:40:06 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 12, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFW2-110

SAMPLE DATA

Lab Sample ID: 75734-2
Matrix: Solid
Percent Solid: 99
Dilution Factor: 2.0
Collection Date: 06/07/13
Lab Receipt Date: 06/10/13
Extraction Date: 06/10/13
Analysis Date: 06/11/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	66	U
PCB-1221	66	U
PCB-1232	66	U
PCB-1242	66	U
PCB-1248	66	U
PCB-1254	66	**73**
PCB-1260	66	U
PCB-1262	66	U
PCB-1268	66	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	78	%
Decachlorobiphenyl	89	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB EXT Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 75734
Sample: 75734-2
Data File: M71797.D
Dilution Factor: 2.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	71	73	2.2	

Column to be used to flag RPD values greater than QC limit of 40%

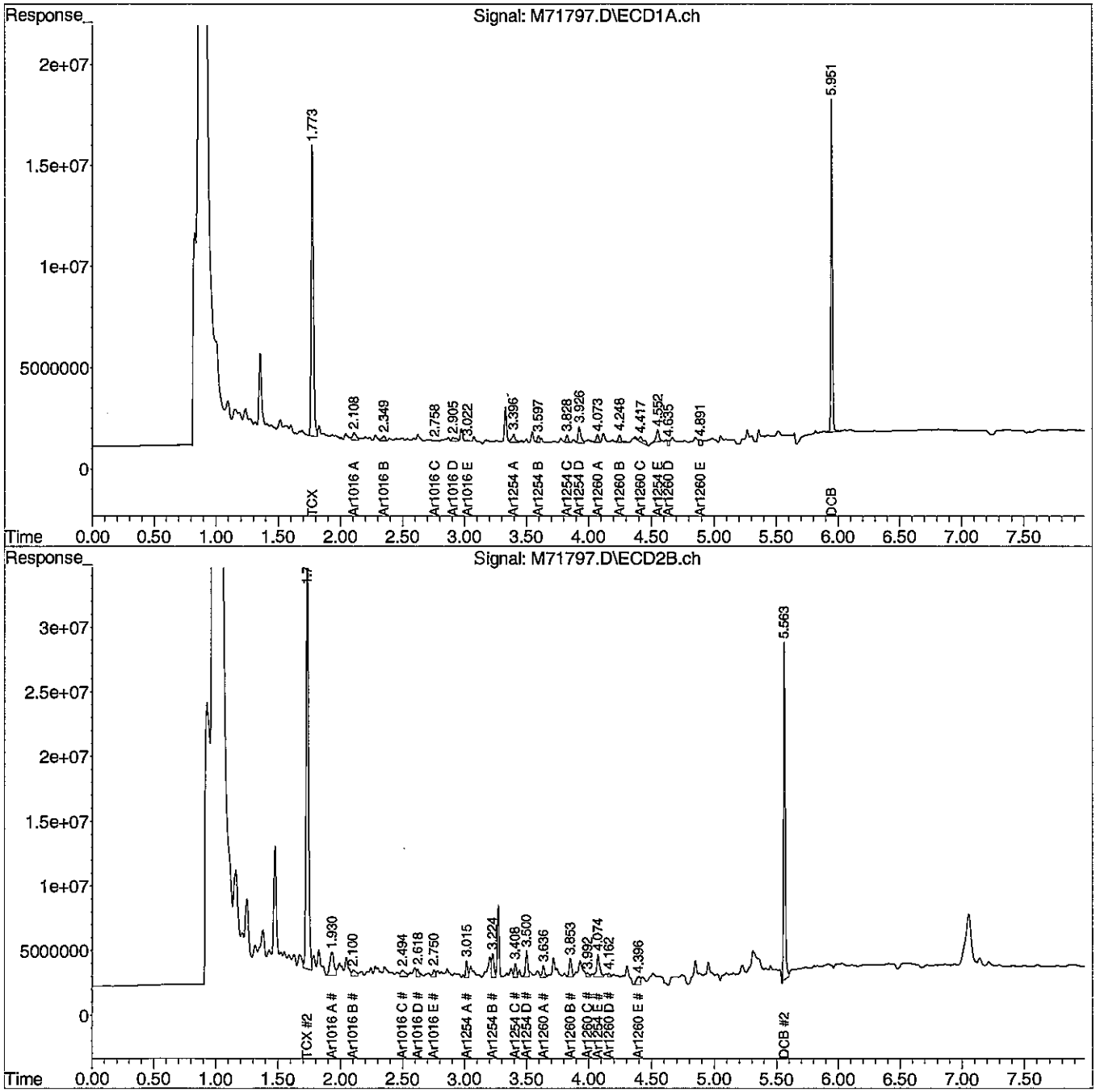
* Values outside QC limits

Comments: _____

Data Path : C:\msdchem\1\DATA\061113-M\
Data File : M71797.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 11 Jun 2013 4:09 pm
Operator : JK
Sample : 75734-2
Misc : SOIL
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 12 12:52:53 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



analytics environmental laboratory LLC

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Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 12, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFW2-111

SAMPLE DATA

Lab Sample ID: 75734-3
Matrix: Solid
Percent Solid: 93
Dilution Factor: 4.8
Collection Date: 06/07/13
Lab Receipt Date: 06/10/13
Extraction Date: 06/10/13
Analysis Date: 06/11/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	158	U
PCB-1221	158	U
PCB-1232	158	U
PCB-1242	158	U
PCB-1248	158	U
PCB-1254	158	U
PCB-1260	158	U
PCB-1262	158	U
PCB-1268	158	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	59	%
Decachlorobiphenyl	65	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

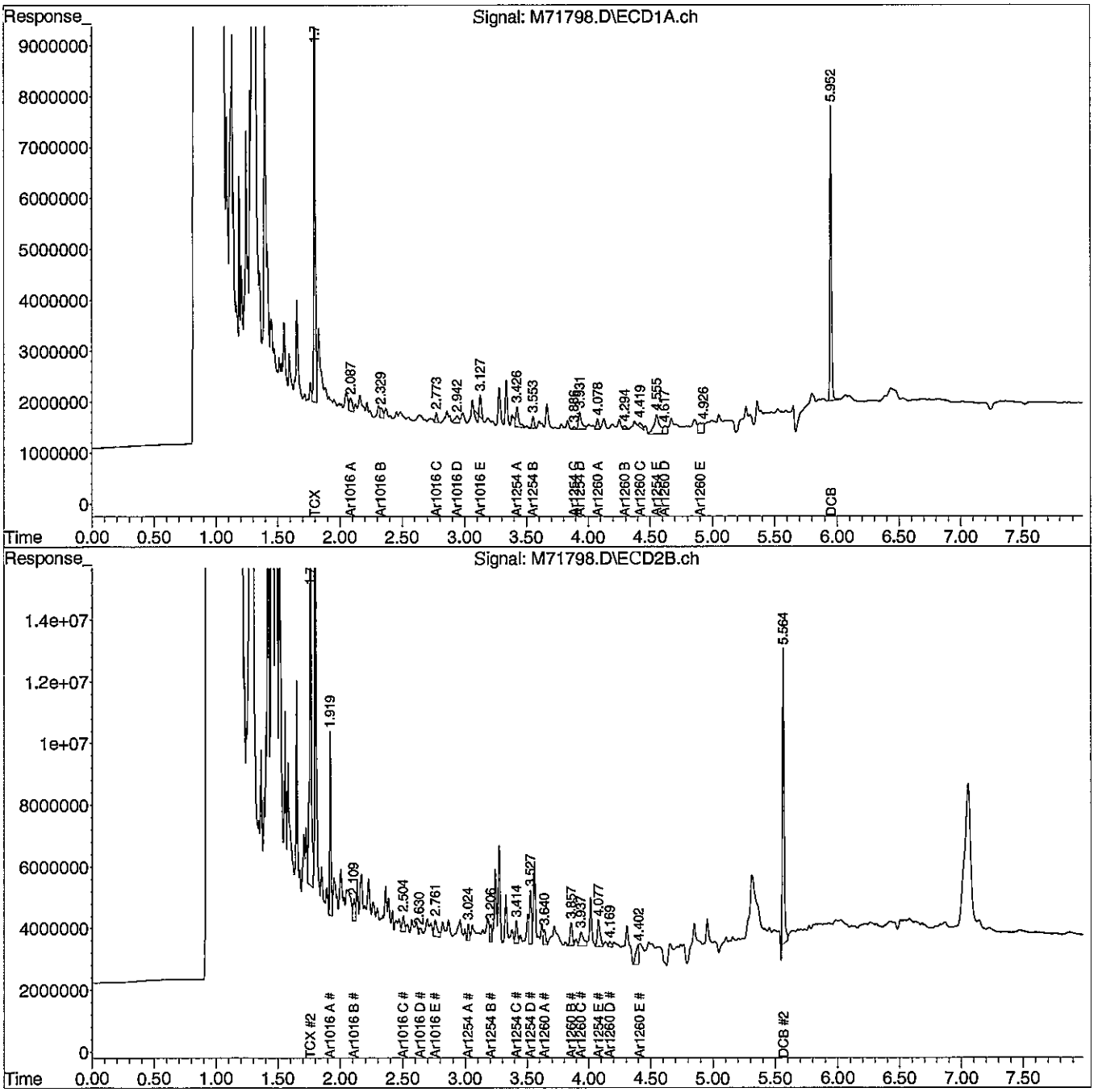
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061113-M\
Data File : M71798.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 11 Jun 2013 4:19 pm
Operator : JK
Sample : 75734-3
Misc : SOIL
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 12 11:40:40 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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Portland ME 04102

June 12, 2013

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFW2-112

Lab Sample ID: 75734-4
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.5
Collection Date: 06/07/13
Lab Receipt Date: 06/10/13
Extraction Date: 06/10/13
Analysis Date: 06/11/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	50	U
PCB-1221	50	U
PCB-1232	50	U
PCB-1242	50	U
PCB-1248	50	U
PCB-1254	50	**92**
PCB-1260	50	U
PCB-1262	50	U
PCB-1268	50	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	75	%
Decachlorobiphenyl	88	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB EXT Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG:
Sample: 75734-4
Data File: M71799.D
Dilution Factor: 1.5

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	89	92	3.1	

Column to be used to flag RPD values greater than QC limit of 40%

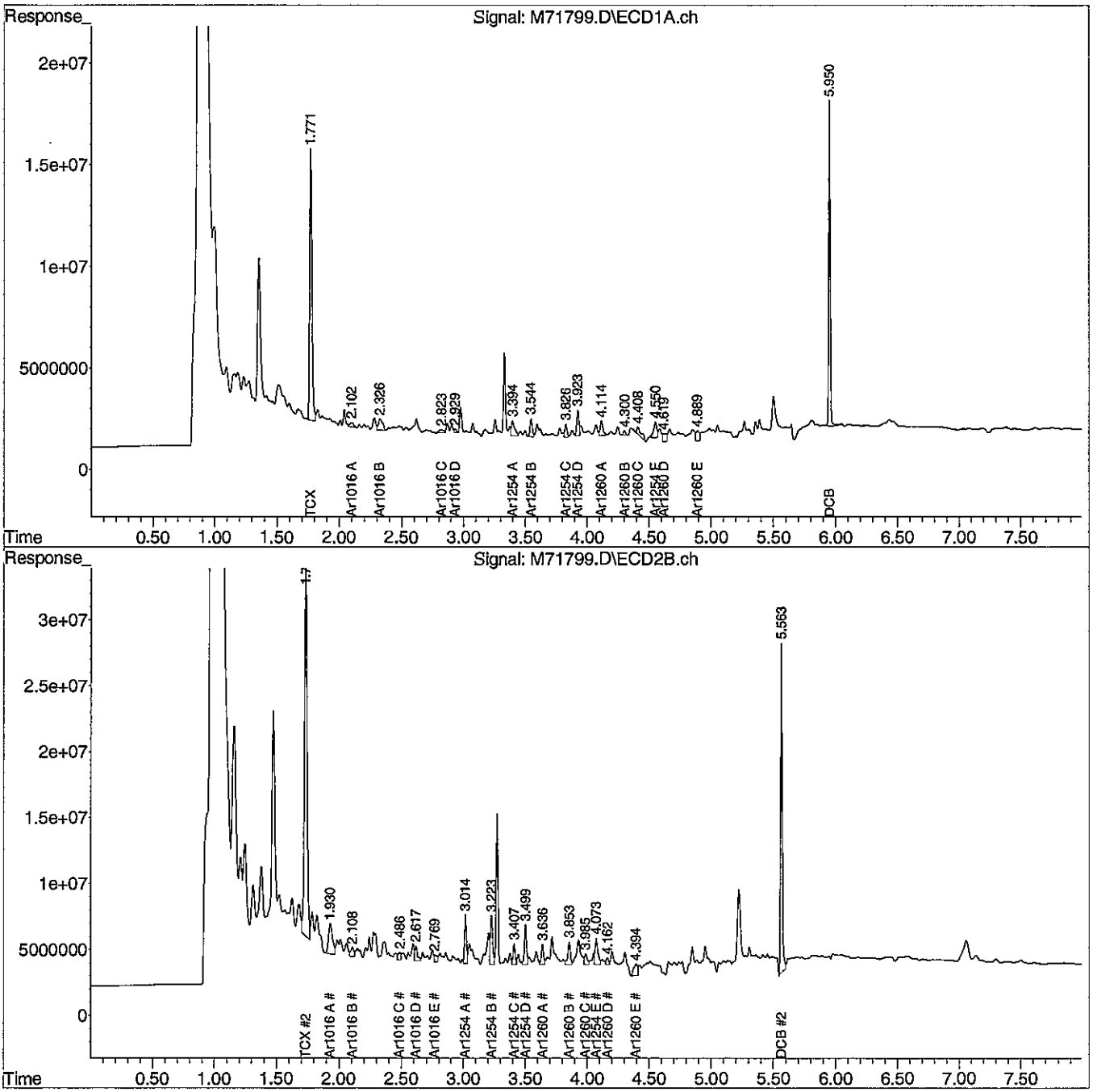
* Values outside QC limits

Comments: _____

Data Path : C:\msdchem\1\DATA\061113-M\
Data File : M71799.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 11 Jun 2013 4:29 pm
Operator : JK
Sample : 75734-4
Misc : SOIL
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 12 13:20:11 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 12, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-FFW2-113

SAMPLE DATA

Lab Sample ID: 75734-5
Matrix: Solid
Percent Solid: 97
Dilution Factor: 1.8
Collection Date: 06/07/13
Lab Receipt Date: 06/10/13
Extraction Date: 06/10/13
Analysis Date: 06/11/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	59	U
PCB-1221	59	U
PCB-1232	59	U
PCB-1242	59	U
PCB-1248	59	U
PCB-1254	59	U
PCB-1260	59	U
PCB-1262	59	U
PCB-1268	59	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	72	%
Decachlorobiphenyl	84	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

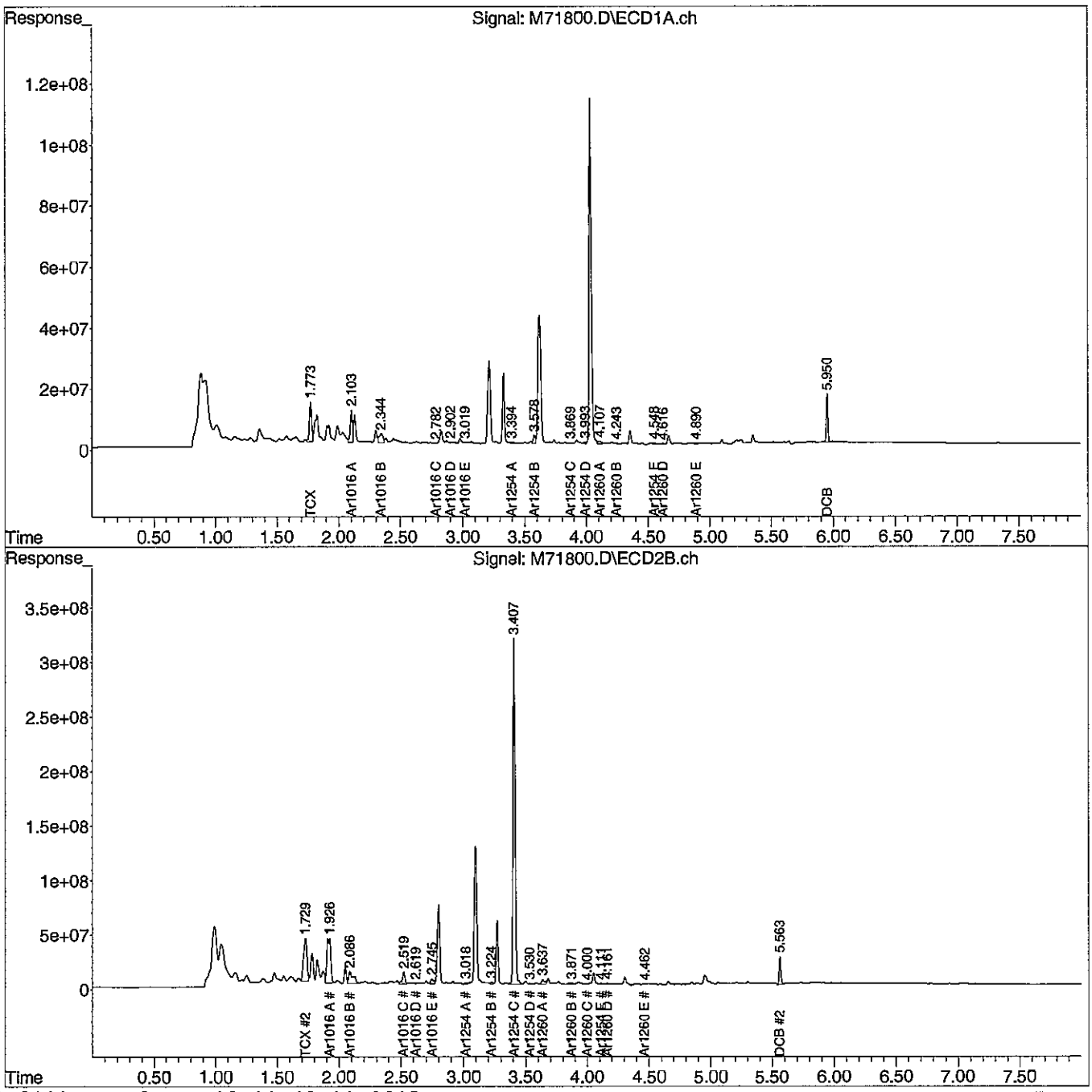
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061113-M\
Data File : M71800.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 11 Jun 2013 4:39 pm
Operator : JK
Sample : 75734-5
Misc : SOIL
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 12 11:42:00 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



analytics environmental laboratory LLC

PCB
QC FORMS

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:PCBQC.doc

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 12, 2013

SAMPLE DATA

Lab Sample ID: B061013PSOX RR
Matrix: Soil
Percent Solid: 100
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 06/10/13
Analysis Date: 06/11/13

CLIENT SAMPLE ID

Project Name: Tuchman Hall
Project Number: 226333
Field Sample ID: Lab QC

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	81	%
Decachlorobiphenyl	85	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

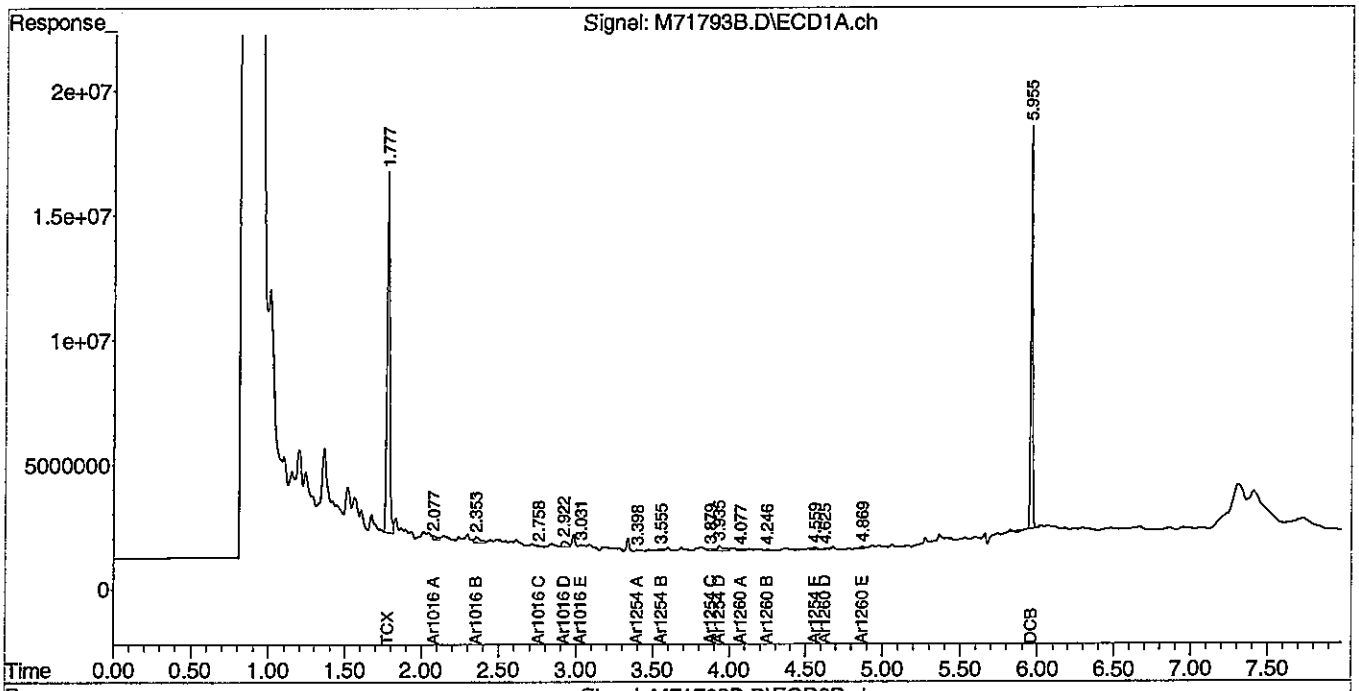
PCB EXT Report

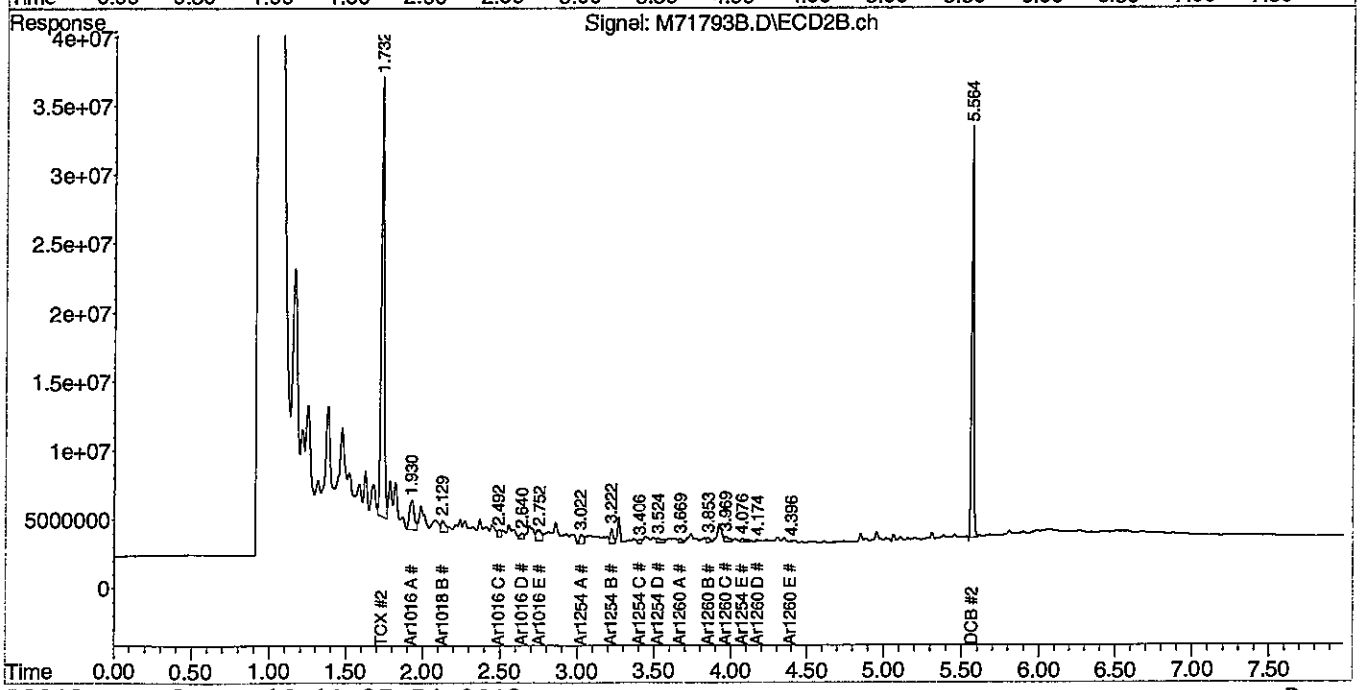
Authorized signature

Data Path : C:\msdchem\1\DATA\061113-M\
Data File : M71793B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 11 Jun 2013 3:28 pm
Operator : JK
Sample : B061013PSOX,RR
Misc : SOIL
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 12 11:37:54 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides 1 SDG: 75734
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B061013PSOX,RR	81		85		73		62	
L061013PSOX,RR	77		86		74		64	
LD061013PSOX,RR	88		90		77		65	
75734-1	80		92		77		54	
75734-2	78		89		76		57	
75734-3	59		65		56		41	
75734-4	75		88		76		55	
75734-5	72		84		1		56	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides 1 SDG:

Column ID: 0.25 mm Non-spiked sample: B061013PSOX,RR

GC Column #2: STX-CLPesticides II Spike: L061013PSOX,RR

Column ID: 0.25 mm Spike duplicate: LD061013PSOX,RR

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	173	86		179	89		3.4	
PCB 1260	200	200	60	130	30	0	181	90		187	94		3.6	
PCB 1016 #2	200	200	65	140	30	0	162	81		183	91		11.8	
PCB 1260 #2	200	200	60	130	30	0	167	83		167	84		0.4	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

analytics environmental laboratory LLC

CHAIN OF CUSTODIES

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:COC.doc

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way, Suite E
Portsmouth, NH 03801
(800) 929-9906
(603) 436-5111
(603) 430-2151 Fax

For Analytics Use Only

Samples were:
1) Shipped or hand-delivered
2) Temperature (°C): 2.3°C
3) Received in good condition: Y or N
4) pH checked by: MA
5) Labels checked by: JG 6/10/13

Project Name: Tuchman Mall
Project#: 226333
Company: Woodard & Curran
Report to: Amy Martin
Address: 41 Hutchins Drive
Portland ME
Phone:
Quote #:
PO# (if required):

Preservation Code: Please fill in preservation code here

Preservation Key:
A= HCL
B= 4°C
C= Unpres
D = MeOH
E = HNO3
F = H2SO4
G = Hexane
H = Other

Circle and/or Write Required Analysis Followed by Preservation Code

Sample Identification	Sample Date	Sample Time	Field Filtered? Y or N	VOC: 8260 524.2 624	SVOC: 8270 625 PAH only SIM	Pesticides: 8081 608	PCB: 8082 608 Soxhlet? Y or N	TPH: 8015 (Gas Range) ME4217	TPH: 8015 (Diesel Range) 8100M ME4125	EPH: Full or Ranges only TETPH	VPH: Full or Ranges only	Metals: RCRA8 PP13 TAL23 Other**	Matrix	No. of Containers	pH checked	Analytics Sample #
TMH-VBC-FFW7-109	6/7/13	1345				X	X						C	1		75734-1
TMH-VBC-FFW2-110	"	1400				X	X						"	"		-2
TMH-VBC-FFW2-111	"	1410				X	X						"	"		-3
TMH-VBC-FFW2-112		1420				X	X						"	"		-4
TMH-VBC-FFW2-113	6/7/13	1430				X	X						"	"		-5

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
E = Extract
GW = Groundwater
DW = Drinking Water
S = Soil / Sludge
O = Oil
X = Other

Email Results to: jrussell@woodardcurran.com amartin@ jrussell@

Comments, Additional Analyses, or Special Instructions: PCBs 8082 Soxhlet

** List requested metals here

Turnaround Time (TAT)
- [ ] 1 Day*
- [x] 2 Days*
- [ ] 3 Days*
- [ ] 4 Days*
- [ ] 5 Days
- [ ] Standard (5-10 business days)

*Fee may apply; lab approval required

Please note: For volatile analyses, a trip blank has been provided in the cooler. If you want the trip blank run and reported please write the trip blank on the COC. Trip Blank analyses will be charged unless other arrangements have been made.

Project Requirements: *Fee may apply

Report Type:
- [x] MCP*
- [x] Level II*
- [ ] CTRCP*
- [ ] Level III*
- [ ] DOD*
- [ ] Level IV*
- [ ] Standard

State:
- [ ] NH
- [x] MA
- [ ] ME
- [ ] CT
- [ ] RI

Other:

State Standard: (eg. S-1 or GW-1)

EDD Required: Y* N
Type:

Sampler Name (Print): Jill L. Russell

Relinquished By Sampler:	Date: 6/10/13	Time: 11:40	Received By: ChelseaSteensen
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Page 1 of 1

ANALYTICS SAMPLE RECEIPT CHECKLIST

analytics environmental laboratory LLC

AEL LAB#: 75734 CODLER NUMBER: 98

CLIENT: Woodard P NUMBER OF CODLERS: 1

PROJECT: Tuchman Hall

A: PRELIMINARY EXAMINATION:

1. Cooler received by(initials): EJC DATE CDOLER RECEIVED/DPENED: 6/10/13
2. Circle one: (Hand delivered) Shipped
   (If so, skip 3)
3. Did cooler come with a shipping slip? Y N
   3a. Enter carrier name and airbill number here: _____
4. Were custody seals on the outside of cooler? Y (N)
   How many & where: _____ Seal Date: _____ Seal Name: _____
5. Did the custody seals arrive unbroken and intact upon arrival? Y N/A
6. COC#: _____
7. Were Custody papers filled out properly (ink,signed, legible, project information etc)? (Y) N
8. Were custody papers sealed in a plastic bag? (Y) N
9. Did you sign the COC in the appropriate place? (Y) N
10. Was enough ice used to chill the cooler? (Y) N Temp. of cooler: 2.3°C

B. Log-In: Date samples were logged in: 6/10/13 By: EJC

11. Were all bottles sealed in separate plastic bags? Y (N)
12. Did all bottles arrive unbroken and were labels in good condition? (Y) N
13. Were all bottle labels complete(ID,Date,time,etc.) (Y) N
14. Did all bottle labels agree with custody papers? (Y) N
15. Were the correct containers used for the tests indicated: (Y) N
16. Were samples received at the correct pH? Y N/A
17. Was sufficient amount of sample sent for the tests indicated? (Y) N
18. Were all samples submitted within holding time? (Y) N
19. Were all containers used within AEL 's expiration date?** Y N/A
20. Were VOA samples absent of greater than pea-sized bubbles? Y N/A
    (Note:Pea-sized bubbles or smaller are acceptable and are not considered to adversely affect volatiles data.)

*If NO, List Sample ID's, Lab #s: _____

When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): _____ Date: 6.1013

**The expiration date is recommended by Analytics Environmental Laboratory and not the method. Therefore this does not mean that the results are non-compliant.

C:ANLYTICS LLC\AEL DOCUMENTS\FORMS\SMPL CHKLST\Edit 4908

Rev. 6. 8/27/12

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
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800-929-9906
www.analyticslab.com

June 13, 2013

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

RE: Analytical Results Case Narrative
Analytics # 75751
Tuchman Hall Project No: 226333

Dear Ms. Martin;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082A.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
MCP Cover Pages
PCB Form 1 Data Sheet for Samples
Chromatograms
PCB Form 10 Confirmation Results
PCB Blanks and Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON-CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

PCBs by EPA Method 8082:
No results were reported below the quantitation limit.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen L. Knollmeyer
Laboratory Director

environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

Report Number: 75751

Revision: Rev. 0

Re: Tuchman

Enclosed are the results of the analyses on your sample(s). Samples were received on 11 June 2013 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
75751-1	06/11/13	TMH-VBC-GLN1-114	EPA 8082 (PCBs only)	
75751-2	06/11/13	TMH-VBC-GLN1-116	EPA 8082 (PCBs only)	
75751-3	06/11/13	TMH-VBC-GLN1-117	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Deparment of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 06/13/2013

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC Project #: 7575I

Project Location: Tuchman RTN:

This Form provides certifications for the following data set. Laboratory Sample ID Number(s):

7575I-1, 7575I-2, 7575I-3

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☒	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition conistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☒ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒ Yes ☐ No
D	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☒ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☒ Yes ☐ No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

Data User Note: Data that achieve "Preseumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.

H	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	☒ Yes ☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

[1] *All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ **Position:** Assistant Laboratory Director

Printed Name: Melissa Gulli **Date:** June 13, 2013

analytics environmental laboratory LLC

PCB
DATA SUMMARIES

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:PCB.doc

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 13, 2013

CLIENT SAMPLE ID

Project Name: Tuchman

Project Number:

Field Sample ID: TMH-VBC-GLN1-114

SAMPLE DATA

Lab Sample ID: 75751-1
Matrix: Solid
Percent Solid: 99
Dilution Factor: 2.1
Collection Date: 06/11/13
Lab Receipt Date: 06/11/13
Extraction Date: 06/11/13
Analysis Date: 06/13/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	69	U
PCB-1221	69	U
PCB-1232	69	U
PCB-1242	69	U
PCB-1248	69	U
PCB-1254	69	U
PCB-1260	69	U
PCB-1262	69	U
PCB-1268	69	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	93	%
Decachlorobiphenyl	94	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

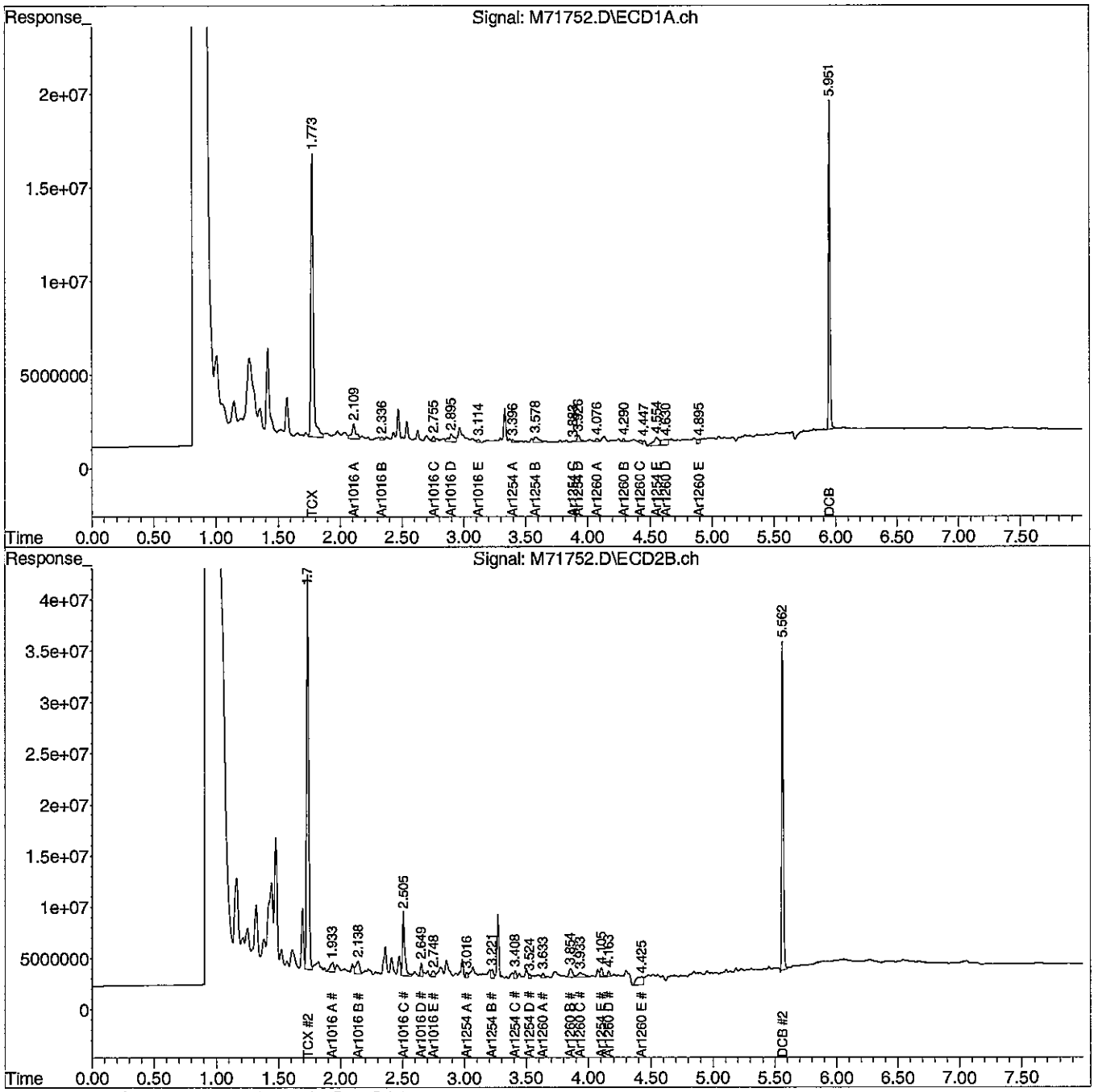
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061313-M\
Data File : M71752.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 13 Jun 2013 1:14 pm
Operator : JK
Sample : 75751-1
Misc : SOIL
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 13 15:26:31 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 13, 2013

CLIENT SAMPLE ID

Project Name: Tuchman

Project Number:

Field Sample ID: TMH-VBC-GLN1-116

SAMPLE DATA

Lab Sample ID: 75751-2
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.8
Collection Date: 06/11/13
Lab Receipt Date: 06/11/13
Extraction Date: 06/11/13
Analysis Date: 06/13/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	59	U
PCB-1221	59	U
PCB-1232	59	U
PCB-1242	59	U
PCB-1248	59	U
PCB-1254	59	U
PCB-1260	59	U
PCB-1262	59	U
PCB-1268	59	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	86	%
Decachlorobiphenyl	96	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

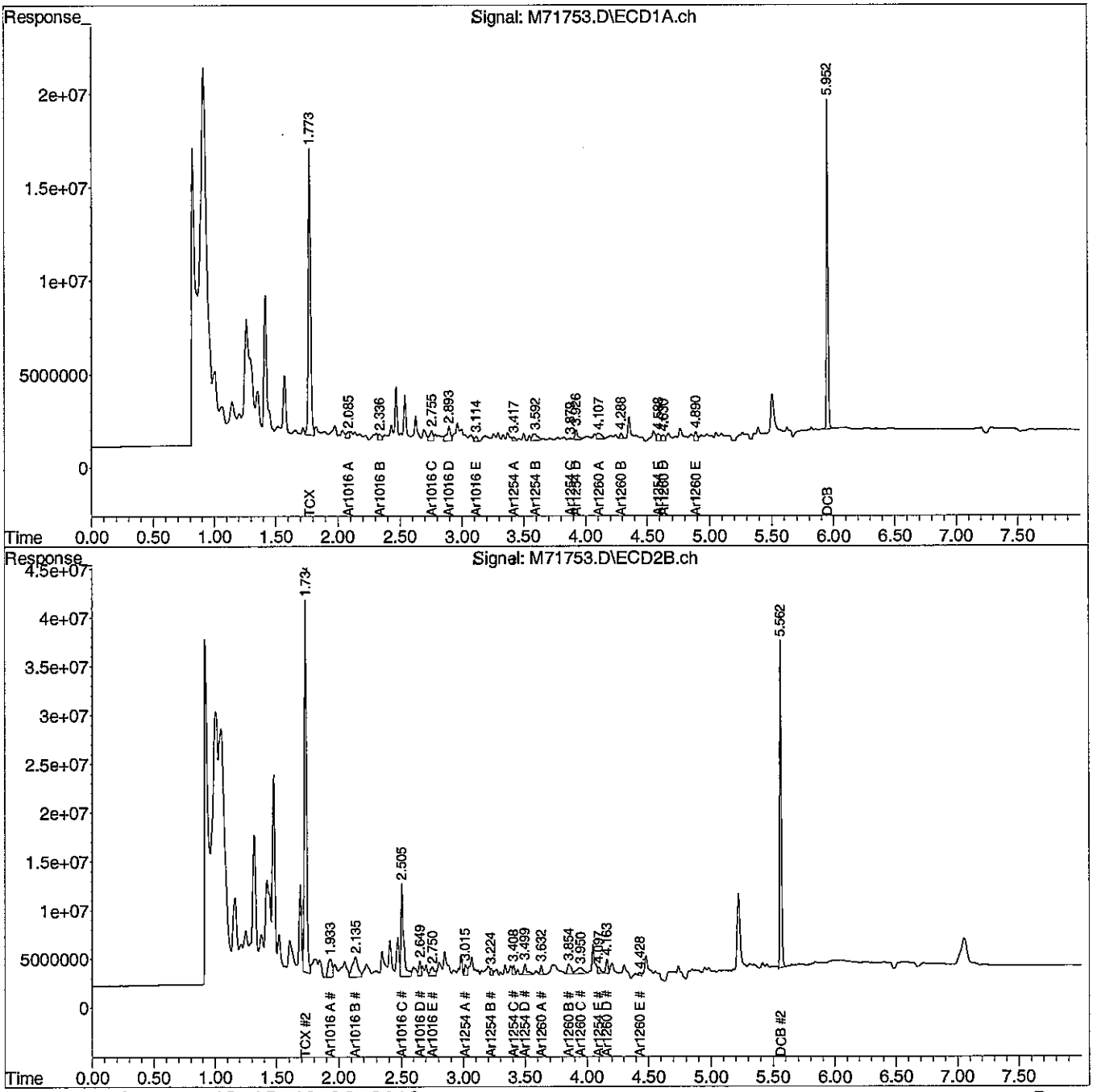
PCB EXT Report

Authorized signature 

Data Path : C:\msdchem\1\DATA\061313-M\
Data File : M71753.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 13 Jun 2013 1:24 pm
Operator : JK
Sample : 75751-2
Misc : SOIL
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 13 15:26:33 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



analytics environmental laboratory LLC

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603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 13, 2013

CLIENT SAMPLE ID

Project Name: Tuchman

Project Number:

Field Sample ID: TMH-VBC-GLN1-117

SAMPLE DATA

Lab Sample ID: 75751-3
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.7
Collection Date: 06/11/13
Lab Receipt Date: 06/11/13
Extraction Date: 06/11/13
Analysis Date: 06/13/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	56	U
PCB-1221	56	U
PCB-1232	56	U
PCB-1242	56	U
PCB-1248	56	U
PCB-1254	56	U
PCB-1260	56	U
PCB-1262	56	U
PCB-1268	56	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	103	%
Decachlorobiphenyl	95	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

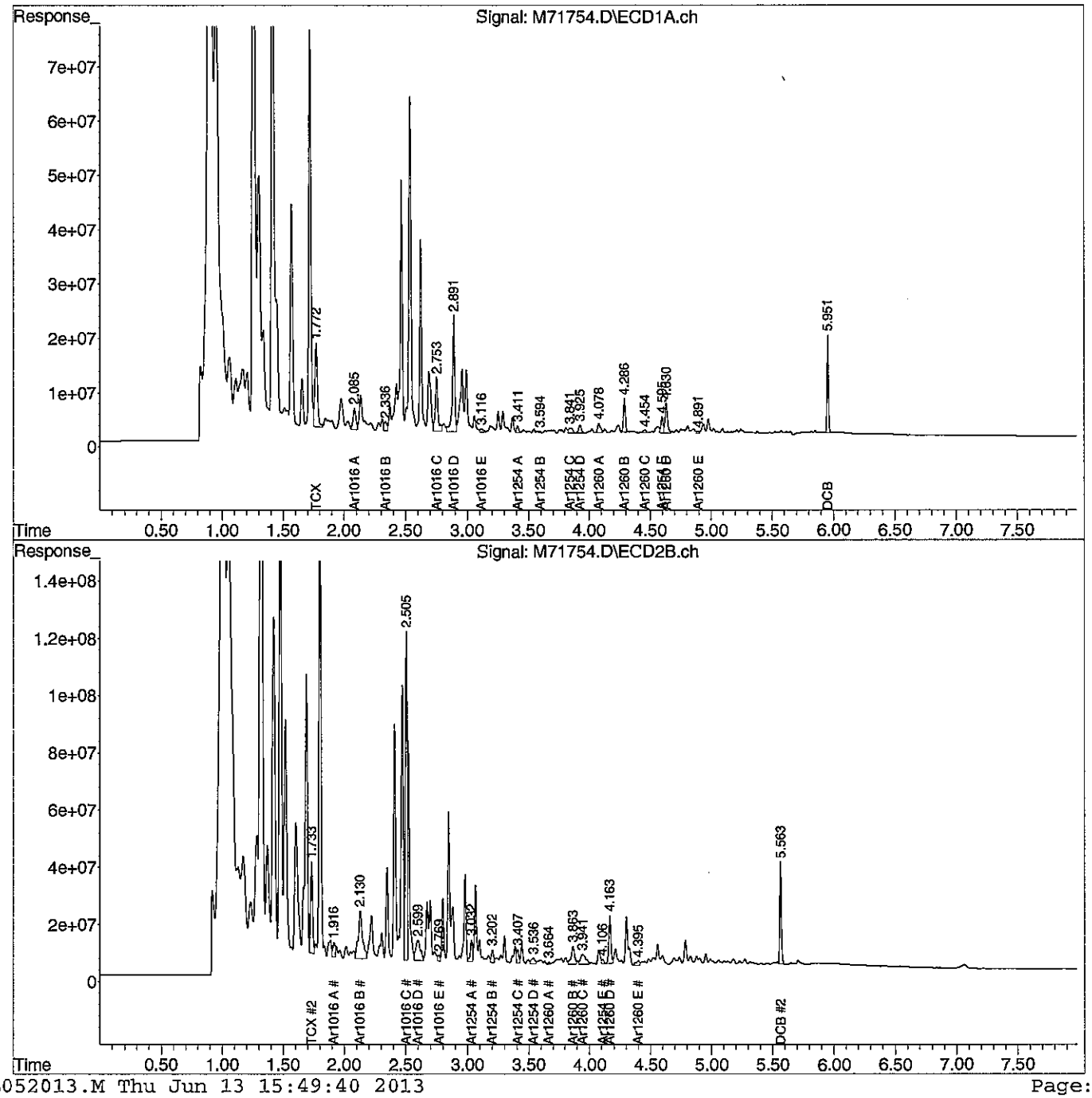
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061313-M\
Data File : M71754.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 13 Jun 2013 1:34 pm
Operator : JK
Sample : 75751-3
Misc : SOIL
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 13 15:26:35 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



analytics environmental laboratory LLC

PCB
QC FORMS

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:PCBQC.doc

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 13, 2013

CLIENT SAMPLE ID

Project Name: Tuchman

Project Number:

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B061113PSOX
Matrix: Soil
Percent Solid: 100
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 06/11/13
Analysis Date: 06/13/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	95	%
Decachlorobiphenyl	108	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

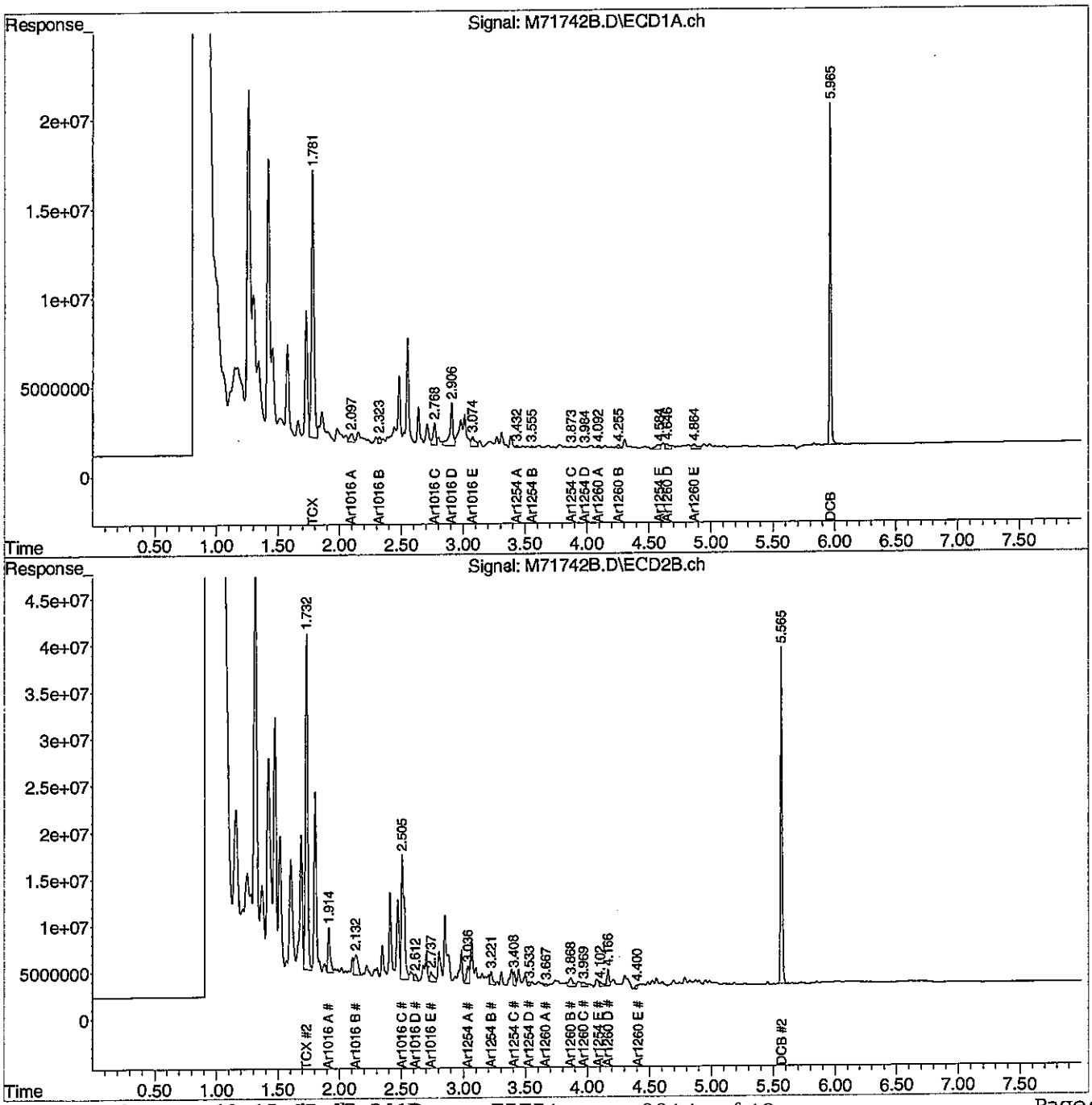
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061313-M\
Data File : M71742B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 13 Jun 2013 11:33 am
Operator : JK
Sample : B061113PSOX
Misc : SOIL
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 13 15:26:11 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 75751

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B061113PSOX	95		108		82		81	
L061113PSOX	91		111		78		78	
LD061113PSOX	85		103		77		73	
75751-1	93		94		83		68	
75751-2	86		96		84		71	
75751-3	103		95		66		76	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides 1

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG:

Non-spiked sample: B061113PSOX

Spike: L061113PSOX

Spike duplicate: LD061113PSOX

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	222	111		222	111		0.3	
PCB 1260	200	200	60	130	30	0	241	120		208	104		14.3	
PCB 1016 #2	200	200	65	140	30	0	231	116		191	96		19.0	
PCB 1260 #2	200	200	60	130	30	0	205	102		182	91		11.7	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

analytics environmental laboratory LLC

CHAIN OF CUSTODIES

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:COC.doc

Chain Of Custody Form

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 4 03/28/08

Samples were:
1) Shipped or ~~hand-delivered~~ (Shipped circled)
2) Temp blank °C 4.1°C
3) Received in good condition (Y) or N
4) pH checked by: N/A
5) Labels checked by: [initials] 6/11/13

Project#:
Proj. Name: Tuchman
Company: Woodard + Curran
Contact: Amy Martin
Address: 41 Hutchins Drive
Portland ME
Phone:
PO#:
Quote #:
Sampler (Signature): [signature]

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
GW = Groundwater
DW = Drinking Water
S = Soil/Sludge
O = Oil
E = Extract
X = Other

Container Key
P=plastic G=glass

Station Identification	Sample Date	Sample Time	Analysis	Unpres	4° C	HNO_3	H_2SO_4	HCL	Methanol	Other	Matrix	Containr number/typ		pH	Analytics Sample #
TMH-VBC-GLN1-114	6/11/13	0900	PCBs		X						C	1	G		75751-1
TMH-VBC-GLN1-116	6/11/13	0920	PCBs		X						C	1	G		-2
TMH-VBC-GLN1-117	6/11/13	0930	PCBs		X						C	1	G		-3

Received By:	Time:	Date:
Chelsea Steensen	3:05 p	6/11/13
Received By:	Time:	Date:
Received By:	Time:	Date:

Relinquished: [signature]

Email Results to:
jhamel@woodardcurran.com
amartin@
jrussell@
[illegible]
[illegible]

Comments / Instructions:
PCBS 8082 Soxhlet

Turnaround Request
Standard ☐ Due Date ____
Priority ☒ Due Date 48 hr TAT
Lab Approval Required

Project Requirements:

Report Type
☒ MCP ☒ Level II
☐ CTRC ☐ Level III
☐ DOD ☐ Level IV
☐ Standard
*Fee may apply

State:
☐ NH
☒ MA
☐ ME
☐ CT
☐ RI
Other: ____

State Standard: ____
(eg. S-1 or GW-1)
EDD Required: Y* N
Type: –
Page 1 of 1

Analytics\AEL Documents\AEL COC

ANALYTICS SAMPLE RECEIPT CHECKLIST

analytics environmental laboratory LLC

AEL LAB#: 75751 COOLER NUMBER: 327

CLIENT: Woodard P NUMBER OF COOLERS: 1

PROJECT: Tuchman

A: PRELIMINARY EXAMINATION:

1. Cooler received by(initials): CS DATE COOLER RECEIVED/OPENED: 6/11/13

2. Circle one: (Hand delivered) Shipped
(If so, skip 3)

3. Did cooler come with a shipping slip?	Y	N
3a. Enter carrier name and airbill number here:		
4. Were custody seals on the outside of cooler? How many & where: ____ Seal Date: ____ Seal Name: ____	Y	(N)
5. Did the custody seals arrive unbroken and intact upon arrival?	Y	N/A
6. COC#: ____		
7. Were Custody papers filled out properly (ink,signed, legible, project information etc)?	(Y)	N
8. Were custody papers sealed in a plastic bag?	Y	(N)
9. Did you sign the COC in the appropriate place?	(Y)	N
10. Was enough ice used to chill the cooler? (Y) N Temp. of cooler:		4.1°C

B. Log-In: Date samples were logged in: 6/11/13 By: EJE

11. Were all bottles sealed in separate plastic bags?	Y	(N)
12. Did all bottles arrive unbroken and were labels in good condition?	(Y)	N
13. Were all bottle labels complete(ID,Date,time,etc.)	(Y)	N
14. Did all bottle labels agree with custody papers?	(Y)	N
15. Were the correct containers used for the tests indicated:	(Y)	N
16. Were samples received at the correct pH?	Y	N/A
17. Was sufficient amount of sample sent for the tests indicated?	(Y)	N
18. Were all samples submitted within holding time?	(Y)	N
19. Were all containers used within AEL 's expiration date?**	Y	N/A
20. Were VOA samples absent of greater than pea-sized bubbles? (Note:Pea-sized bubbles or smaller are acceptable and are not considered to adversely affect volatiles data.)	Y	N*

*If NO, List Sample ID's, Lab #s: ____

When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): ____ Date: 6/11/13

**The expiration date is recommended by Analytics Environmental Laboratory and not the method. Therefore this does not mean that the results are non-compliant.

analytics environmental laboratory LLC

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June 14, 2013

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

RE: Analytical Results Case Narrative
Analytics # 75756
Tuchman Hall Project No: 226333

Dear Ms. Martin;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082A.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
MCP Cover Pages
PCB Form 1 Data Sheet for Samples
Chromatograms
PCB Form 10 Confirmation Results
PCB Blanks and Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON-CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

PCBs by EPA Method 8082:
No results were reported below the quantitation limit.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen L. Knollmeyer
Laboratory Director

analytics environmental laboratory LLC

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800-929-9906
www.analyticslab.com

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

Report Number: 75756

Revision: Rev. 0

Re: Tuchman Hall

Enclosed are the results of the analyses on your sample(s). Samples were received on 12 June 2013 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
75756-1	06/12/13	TMH-VBC-GLE1-120	EPA 8082 (PCBs only)	
75756-2	06/12/13	TMH-VBC-GLE1-118	EPA 8082 (PCBs only)	
75756-3	06/12/13	TMH-VBC-GLE1-119	EPA 8082 (PCBs only)	
75756-4	06/12/13	TMH-VBC-GLN1-115	EPA 8082 (PCBs only)	
75756-5	06/12/13	TMH-VBC-FFN4-121	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Deparment of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 06/14/2013

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC Project #: 75756

Project Location: Tuchman Hall RTN:

This Form provides certifications for the following data set. Laboratory Sample ID Number(s):

75756-1, 75756-2, 75756-3, 75756-4, 75756-5

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☒	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐	

	Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status	
A	Were all samples received in a condition conistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☒ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒ Yes ☐ No
D	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☐ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☒ Yes ☐ No
	Responses to Questions G, H and I below are required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]
	Data User Note: Data that achieve "Preseumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.	
H	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	☒ Yes ☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

[1] *All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ **Position:** Assistant Laboratory Director

Printed Name: Melissa Gulli **Date:** June 14, 2013

analytics environmental laboratory LLC

PCB
DATA SUMMARIES

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 14, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number:

Field Sample ID: TMH-VBC-GLE1-120

SAMPLE DATA

Lab Sample ID: 75756-1
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.9
Collection Date: 06/12/13
Lab Receipt Date: 06/12/13
Extraction Date: 06/12/13
Analysis Date: 06/13/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	63	U
PCB-1221	63	U
PCB-1232	63	U
PCB-1242	63	U
PCB-1248	63	U
PCB-1254	63	U
PCB-1260	63	U
PCB-1262	63	U
PCB-1268	63	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	85	%
Decachlorobiphenyl	99	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

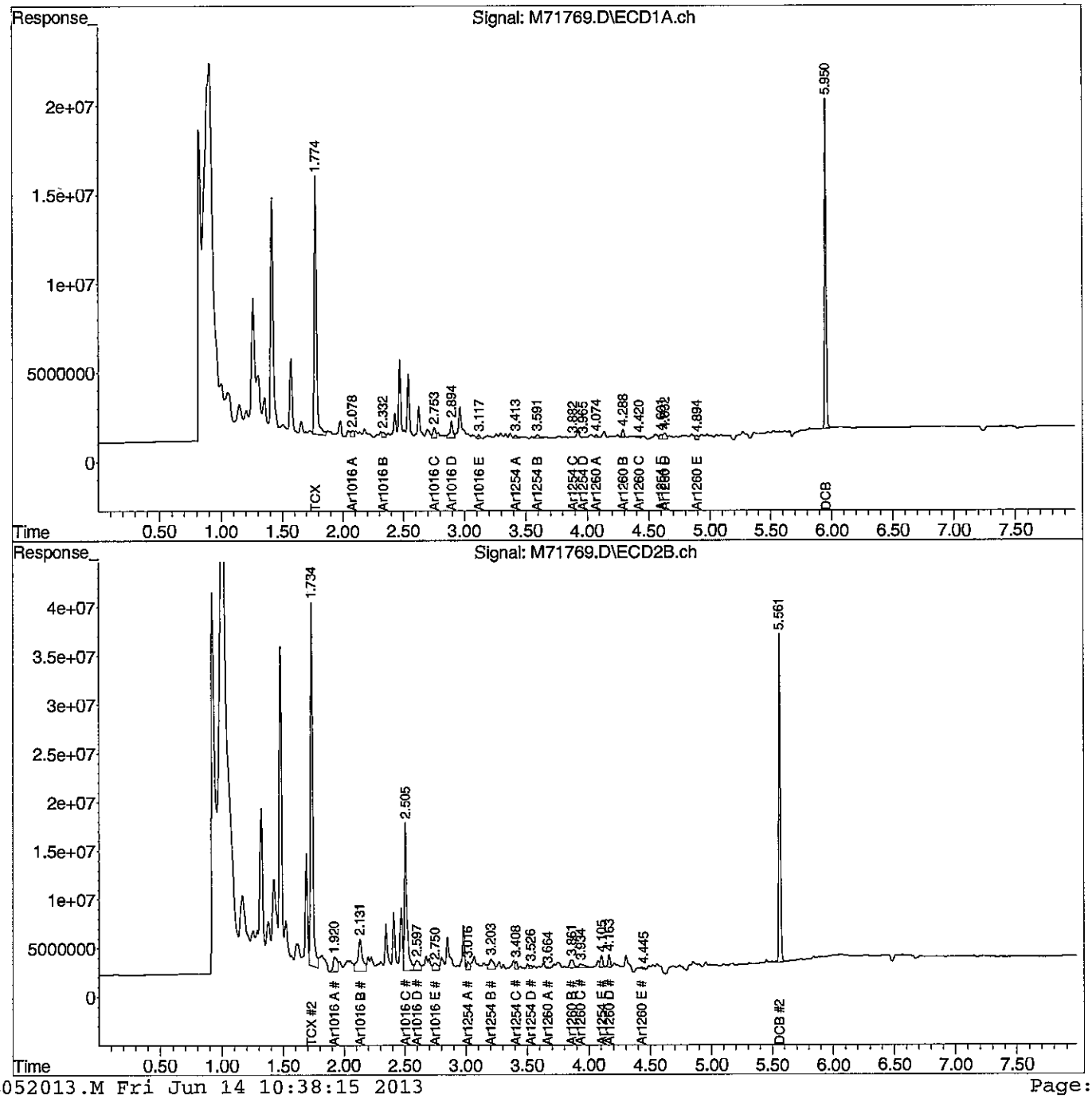
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061313-M\
Data File : M71769.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 13 Jun 2013 5:33 pm
Operator : JK
Sample : 75756-1
Misc : SOIL
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 14 10:30:14 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 14, 2013

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number:

Field Sample ID: TMH-VBC-GLE1-118

Lab Sample ID: 75756-2
Matrix: Solid
Percent Solid: 99
Dilution Factor: 2.0
Collection Date: 06/12/13
Lab Receipt Date: 06/12/13
Extraction Date: 06/12/13
Analysis Date: 06/13/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	66	U
PCB-1221	66	U
PCB-1232	66	U
PCB-1242	66	U
PCB-1248	66	U
PCB-1254	66	U
PCB-1260	66	U
PCB-1262	66	U
PCB-1268	66	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	86	%
Decachlorobiphenyl	97	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

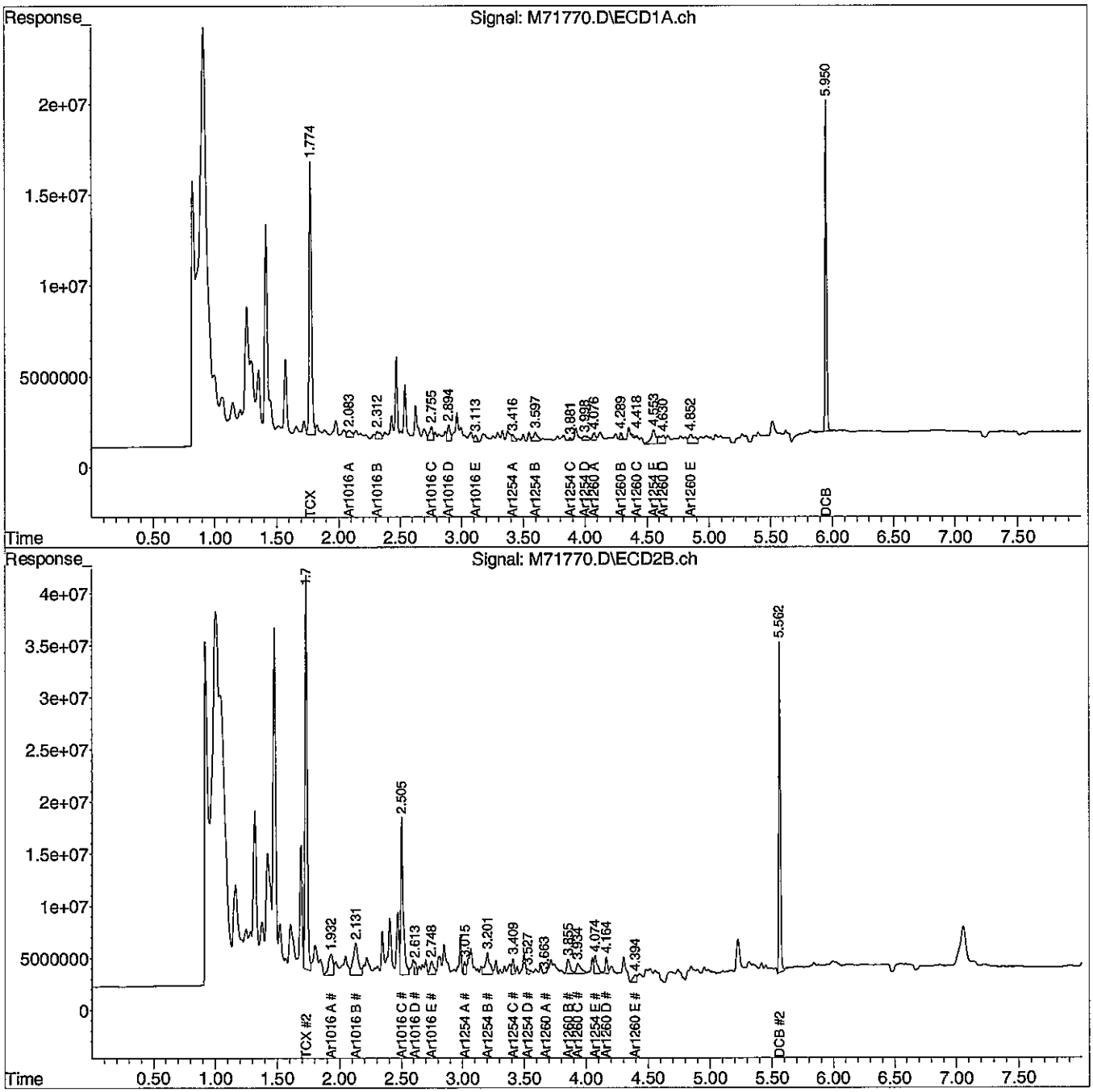
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061313-M\
Data File : M71770.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 13 Jun 2013 5:43 pm
Operator : JK
Sample : 75756-2
Misc : SOIL
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 14 10:30:16 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 14, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number:

Field Sample ID: TMH-VBC-GLE1-119

SAMPLE DATA

Lab Sample ID: 75756-3
Matrix: Solid
Percent Solid: 98
Dilution Factor: 2.1
Collection Date: 06/12/13
Lab Receipt Date: 06/12/13
Extraction Date: 06/12/13
Analysis Date: 06/13/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	69	U
PCB-1221	69	U
PCB-1232	69	U
PCB-1242	69	U
PCB-1248	69	U
PCB-1254	69	U
PCB-1260	69	U
PCB-1262	69	U
PCB-1268	69	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	83	%
Decachlorobiphenyl	91	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

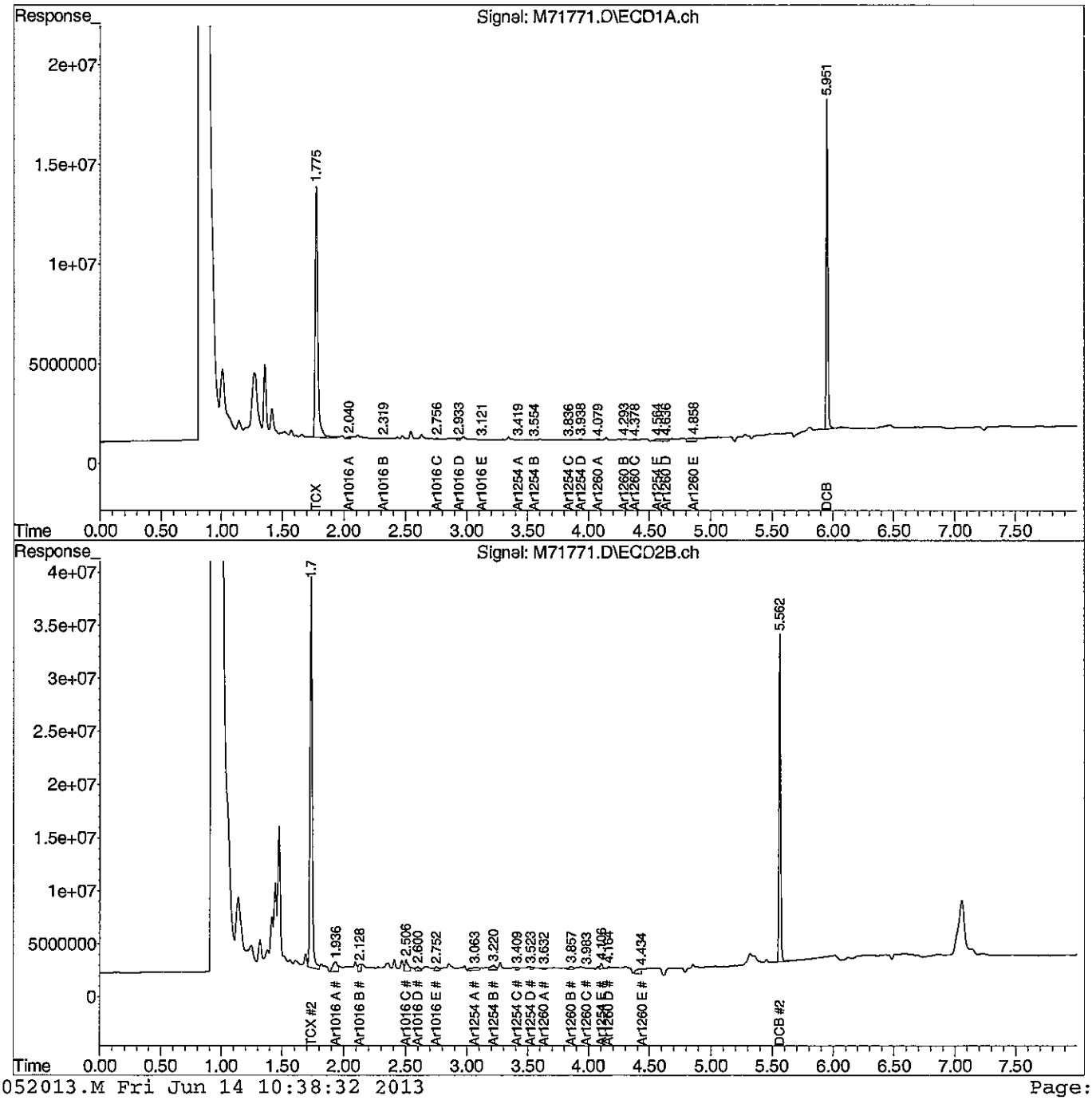
PCB EXT Report

Authorized signature 

Data Path : C:\msdchem\1\DATA\061313-M\
Data File : M71771.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 13 Jun 2013 5:53 pm
Operator : JK
Sample : 75756-3
Misc : SOIL
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 14 10:30:18 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



analytics environmental laboratory LLC

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603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 14, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number:

Field Sample ID: TMH-VBC-GLN1-115

SAMPLE DATA

Lab Sample ID: 75756-4
Matrix: Solid
Percent Solid: 99
Dilution Factor: 2.0
Collection Date: 06/12/13
Lab Receipt Date: 06/12/13
Extraction Date: 06/12/13
Analysis Date: 06/13/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	66	U
PCB-1221	66	U
PCB-1232	66	U
PCB-1242	66	U
PCB-1248	66	U
PCB-1254	66	U
PCB-1260	66	U
PCB-1262	66	U
PCB-1268	66	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	92	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

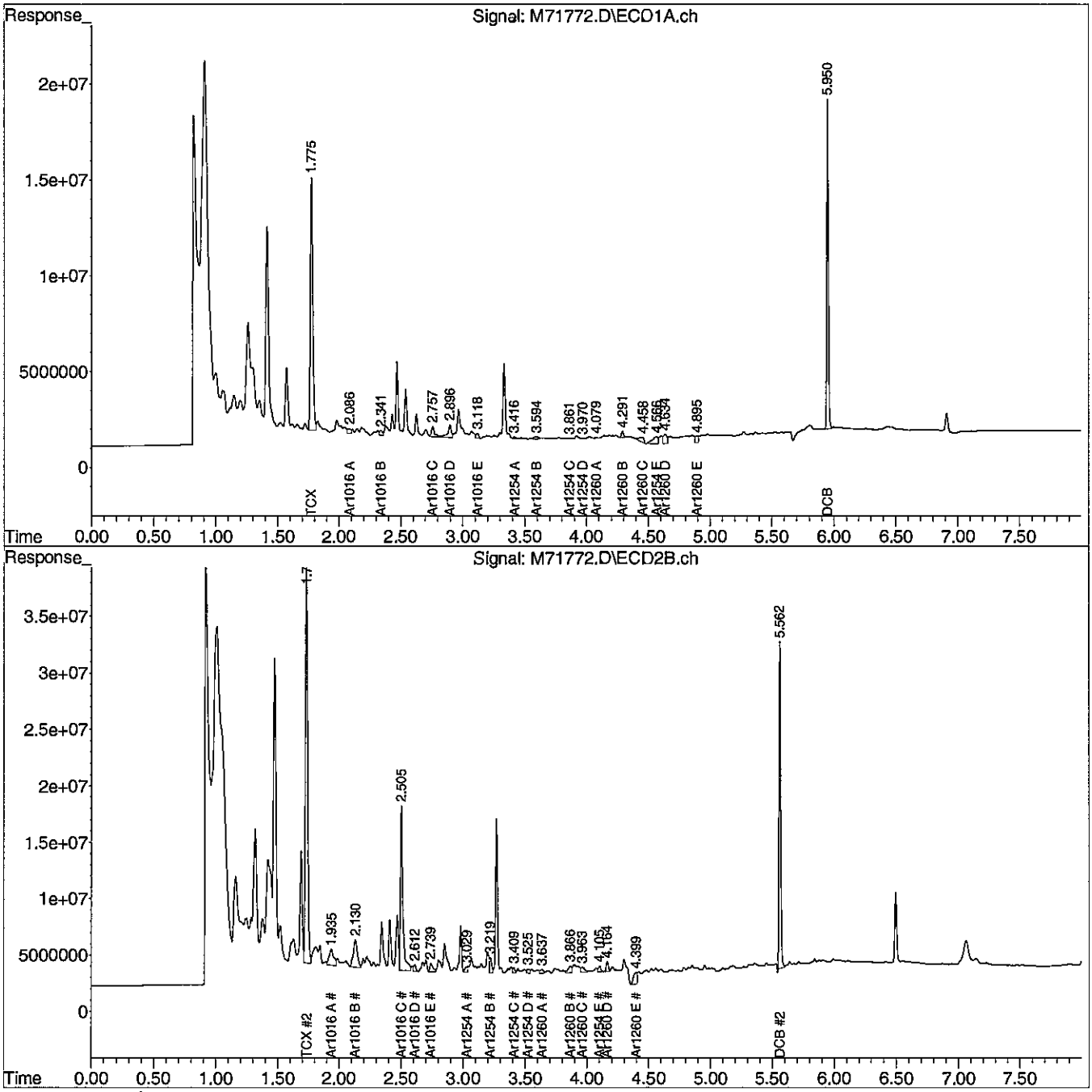
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061313-M\
Data File : M71772.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 13 Jun 2013 6:03 pm
Operator : JK
Sample : 75756-4
Misc : SOIL
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 14 10:30:20 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 14, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number:

Field Sample ID: TMH-VBC-FFN4-121

SAMPLE DATA

Lab Sample ID:	75756-5
Matrix:	Solid
Percent Solid:	97
Dilution Factor:	1.9
Collection Date:	06/12/13
Lab Receipt Date:	06/12/13
Extraction Date:	06/12/13
Analysis Date:	06/13/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	63	U
PCB-1221	63	U
PCB-1232	63	U
PCB-1242	63	U
PCB-1248	63	U
PCB-1254	63	**596**
PCB-1260	63	U
PCB-1262	63	U
PCB-1268	63	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	90	%
Decachlorobiphenyl	98	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB EXT Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 75756
Sample: 75756-5
Data File: M71773.D
Dilution Factor: 1.9

	Column #I	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	596	557	6.8	

Column to be used to flag RPD values greater than QC limit of 40%

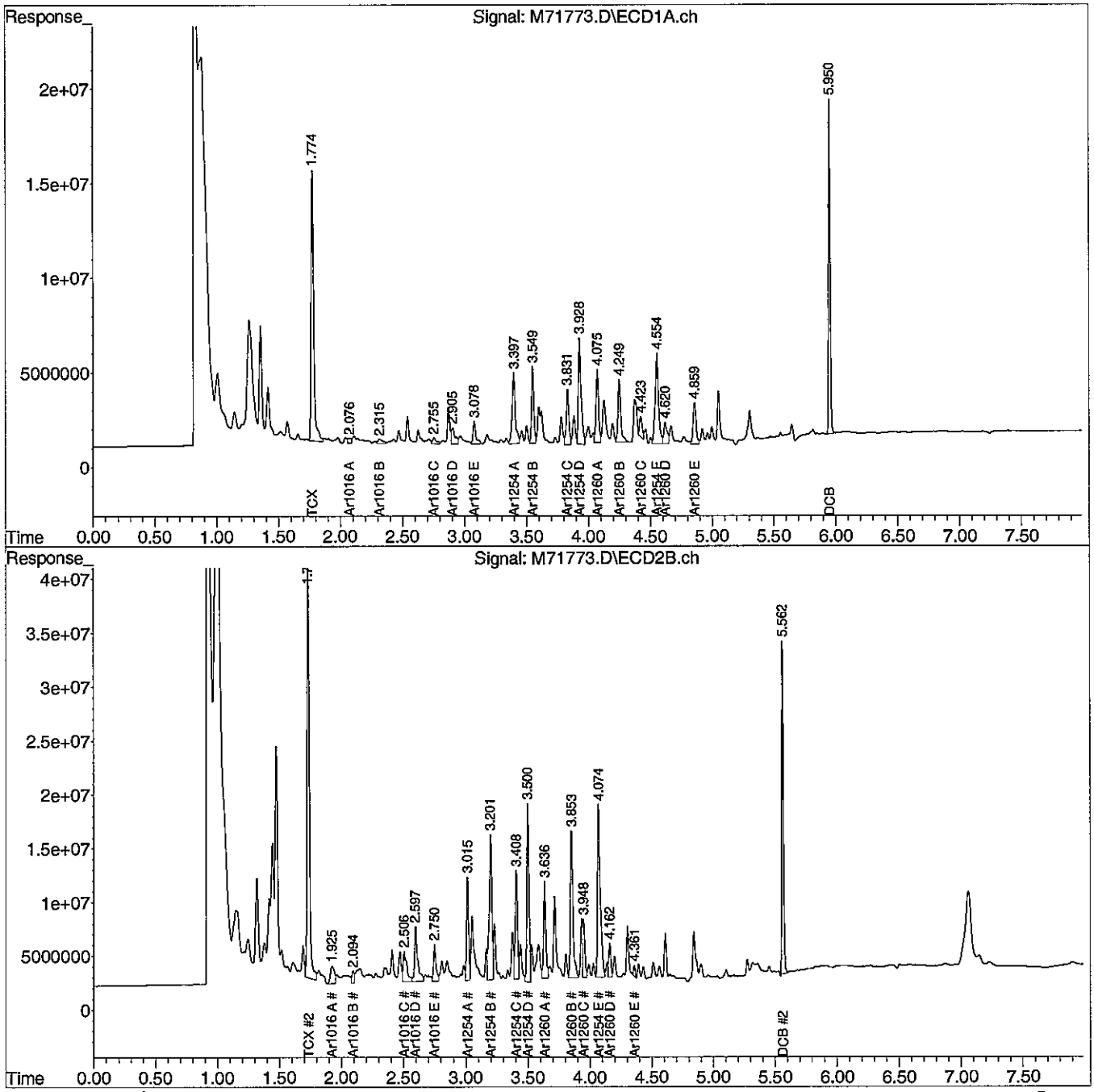
* Values outside QC limits

Comments: _____

Data Path : C:\msdchem\1\DATA\061313-M\
Data File : M71773.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 13 Jun 2013 6:13 pm
Operator : JK
Sample : 75756-5
Misc : SOIL
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 14 10:39:22 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB
QC FORMS

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 14, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number:

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B061213PSOX
Matrix: Soil
Percent Solid: 100
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 06/12/13
Analysis Date: 06/13/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	105	%
Decachlorobiphenyl	98	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

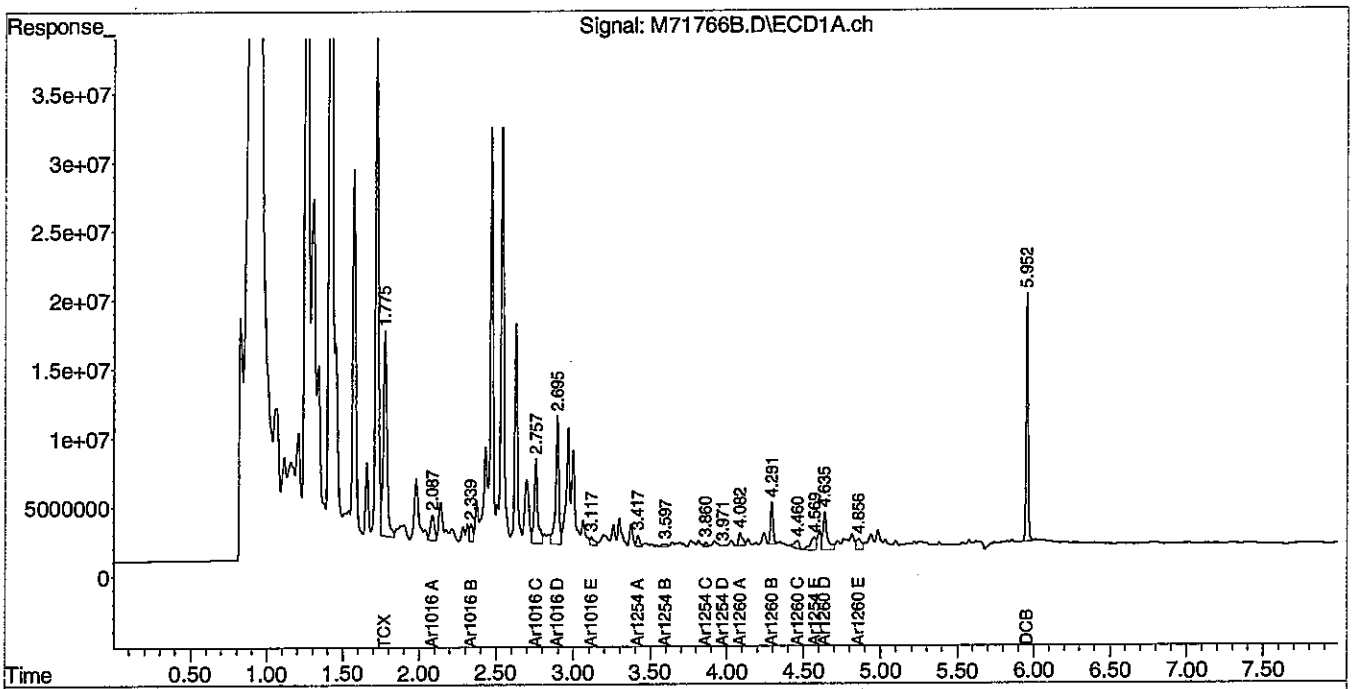
PCB EXT Report

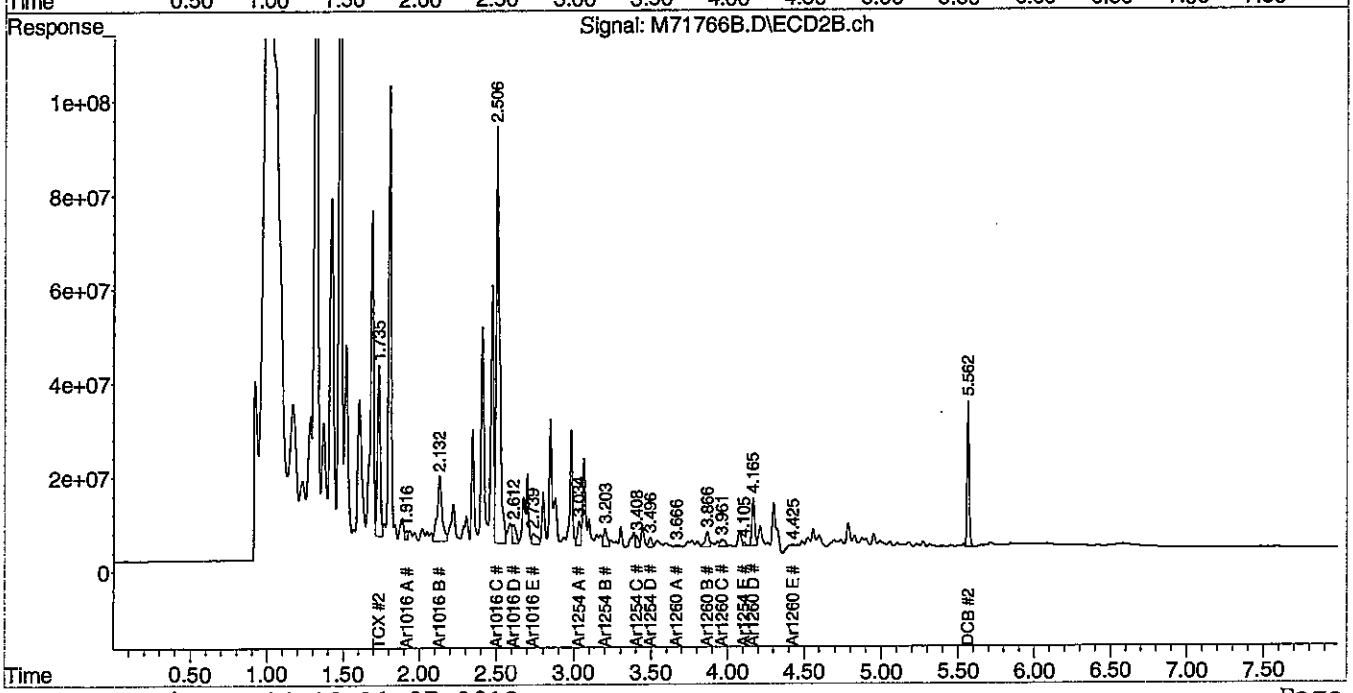
Authorized signature

Data Path : C:\msdchem\1\DATA\061313-M\
Data File : M71766B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 13 Jun 2013 5:02 pm
Operator : JK
Sample : B061213PSOX
Misc : SOIL
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 14 10:30:08 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:27 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





PCB WIPE
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides 1 SDG: 75756
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B061213PSOX	105		98		79		68	
L061213PSOX	105		99		86		70	
LD061213PSOX	99		100		81		73	
75756-1	85		99		85		72	
75756-2	86		97		83		68	
75756-3	83		91		82		68	
75756-4	80		92		79		62	
75756-5	90		98		89		67	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG:

Non-spiked sample: B061213PSOX

Spike: L061213PSDX

Spike duplicate: LD061213PSOX

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	237	119		238	119		0.1	
PCB 1260	200	200	60	130	30	0	227	113		201	100		12.2	
PCB 1016 #2	200	200	65	140	30	0	240	120		261	130		8.2	
PCB 1260 #2	200	200	60	130	30	0	257	129		240	120		7.2	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

CHAIN OF CUSTODIES

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 4 03/28/08

Samples were:
1) Shipped or hand-delivered
2) Temp blank °C 5.3C
3) Received in good condition (Y) or N
4) pH checked by: _____
5) Labels checked by: DM 6/12/13

Project#: Proj. Name: Tuchman Hall
Company: Woodard + Curran
Contact: Amy Martin
Address: 41 Hutchins Drive
Portland ME
Phone: PO# Quote #
Sampler (Signature):

Matrix Key: C = Concrete, WP = Wipe, WW = Wastewater, SW = Surface Water, GW = Groundwater, DW = Drinking Water, S = Soil/Sludge, O = Oil, E = Extract, X = Other

Container Key: P=plastic G=glass

Preservation: Unpres, 4° C, HNO_3, H_2SO_4, HCL, Methanol, Other

Station Identification	Sample Date	Sample Time	Analysis	Matrix	Containr number/typ		pH	Analytics Sample #
TMH-VBC-GLE1-120	6/12/13	0800	PCBs	C	1	G		75756-1
TMH-VBC-GLE1-118	↓	0855	PCBs	C	1	G		-2
TMH-VBC-GLE1-119	↓	0850	PCBs	C	1	G		-3
TMH-VBC-GLN1-115	6/12/13	0930	PCBs	Blank	1	G		-4
~~TMH-VBC-GLT~~		1000	JR 6/12/13		1			
TMH-VBC-FFN4-121	6/12/13	0945	PCBs	C	1	G		-5

Received By: Time: 1350 Date: 6/12/13

Email Results to: jhamel@woo amartin@ JRussell@

Comments / Instructions: dard curran.com

PCBs 8082 Soxhlet

Turnaround Request
Standard ☐ Due Date _____
Priority ☒ Due Date 48hr
Lab Approval Required

Project Requirements:
Report Type: ☒ MCP ☒ Level II ☐ CTRC ☐ Level III ☐ DOD ☐ Level IV ☐ Standard
*Fee may apply
State: ☐ NH ☒ MA ☐ ME ☐ CT ☐ RI Other: _____
State Standard: _____ (eg. S-1 or GW-1)
EDD Required: Y* N
Type: _
Page 1 of 1

Analytics\AEL Documents\AEL COC

ANALYTICS SAMPLE RECEIPT CHECKLIST

analytics environmental laboratory LLC

AEL LAB#: 75756 COOLER NUMBER: 138

CLIENT: Woodard NUMBER OF COOLERS: 1

PROJECT: Tuchman Hall

A: PRELIMINARY EXAMINATION:

1. Cooler received by(initials): LM DATE COOLER RECEIVED/OPENED: 6/12/13

2. Circle one: Hand delivered (If so, skip 3) Shipped

3. Did cooler come with a shipping slip?	Y	N
3a. Enter carrier name and airbill number here:		
4. Were custody seals on the outside of cooler? How many & where: ____ Seal Date: ____ Seal Name: ____	Y	(N)
5. Did the custody seals arrive unbroken and intact upon arrival?	Y	NA
6. COC#:		
7. Were Custody papers filled out properly (ink,signed, legible, project information etc)?	(Y)	N
8. Were custody papers sealed in a plastic bag?	Y	(N)
9. Did you sign the COC in the appropriate place?	(Y)	N
10. Was enough ice used to chill the cooler? (Y) N Temp. of cooler:		5.3 °C

B. Log-In: Date samples were logged in: 6/12/13 By: EJC

11. Were all bottles sealed in separate plastic bags?	Y	(N)
12. Did all bottles arrive unbroken and were labels in good condition?	(Y)	N
13. Were all bottle labels complete(ID,Date,time,etc.)	(Y)	N
14. Did all bottle labels agree with custody papers?	(Y)	N
15. Were the correct containers used for the tests indicated:	(Y)	N
16. Were samples received at the correct pH?	Y	NA
17. Was sufficient amount of sample sent for the tests indicated?	(Y)	N
18. Were all samples submitted within holding time?	(Y)	N
19. Were all containers used within AEL 's expiration date?**	Y	NA
20. Were VOA samples absent of greater than pea-sized bubbles? (Note:Pea-sized bubbles or smaller are acceptable and are not considered to adversely affect volatiles data.)	Y	NA

*If NO, List Sample ID's. Lab #s: _____

When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): _____ Date: 6/12/13

**The expiration date is recommended by Analytics Environmental Laboratory and not the method. Therefore this does not mean that the results are non-compliant.

analytics environmental laboratory LLC

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800-929-9906
www.analyticslab.com

June 19, 2013

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

RE: Analytical Results Case Narrative
Analytics # 75762
Tuchman Hall Project No: 226333

Dear Ms. Martin;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082A.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
MCP Cover Pages
PCB Form 1 Data Sheet for Samples
Chromatograms
PCB Form 10 Confirmation Results
PCB Blanks and Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON-CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

PCBs by EPA Method 8082:
No results were reported below the quantitation limit.

The laboratory blank (B061713PW) had low Decachlorobiphenyl surrogate recovery on column#2. Results were reported off of column#1 without qualification.

The closing continuing calibration standard analyzed 06/19/13 had low recovery for surrogate Decachlorobiphenyl on column#2. Column#1 was in control for all analytes. The analytical window was analyzed previously with similar results.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen L. Knollmeyer
Laboratory Director

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

Report Number: 75762

Revision: Rev. 0

Re: Tuchman Hall (Project No: 226333)

Enclosed are the results of the analyses on your sample(s). Samples were received on 13 June 2013 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Sample Analysis: The attached pages detail the Client Sample IDs, Lab Sample IDs, and Analyses requested

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, North Carolina, and is accredited by the Deparment of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 06/17/13

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

CLIENT: Woodard & Curran **REPORT NUMBER: 75762** **REV: Rev. 0**

PROJECT: Tuchman Hall (Project No: 226333)

Lab Number	Sample Date	Station Location	Analysis	Comments
75762-1	06/13/13	TMH-VBC-GLW1-122	EPA 8082 (PCBs only)	
75762-2	06/13/13	TMH-VBC-GLW1-123	EPA 8082 (PCBs only)	
75762-3	06/13/13	TMH-VBC-GLW1-124	EPA 8082 (PCBs only)	
75762-4	06/13/13	TMH-VBCD-GLW1-125	EPA 8082 (PCBs only)	
75762-5	06/13/13	TMH-VBC-GLS3-126	EPA 8082 (PCBs only)	
75762-6	06/13/13	TMH-VBC-GLS3-127	EPA 8082 (PCBs only)	
75762-7	06/13/13	TMH-VBCD-GLS3-129	EPA 8082 (PCBs only)	
75762-8	06/13/13	TMH-VBC-GLS3-128	EPA 8082 (PCBs only)	
75762-9	06/13/13	TMH-VBCQ-GLS3-130	EPA 8082 (PCBs only)	

analytics environmental laboratory LLC

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MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC Project #: 75762

Project Location: Tuchman Hall RTN:

This Form provides certifications for the following data set. Laboratory Sample ID Number(s):

75762-I through 75762-9

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☒	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition conistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☒Yes ☐No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒Yes ☐No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒Yes ☐No
D	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☒Yes ☐No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐Yes ☐No ☐Yes ☐No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☒Yes ☐No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐Yes ☒No[1]

Data User Note: Data that achieve "Preseumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.

H	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	☐Yes ☒No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒Yes ☐No[1]

[1] *All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ **Position:** Laboratory Director

Printed Name: Stephen L. Knollmeyer **Date:** June 19, 2013

analytics environmental laboratory LLC

PCB
DATA SUMMARIES

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 17, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-GLW1-122

SAMPLE DATA

Lab Sample ID: 75762-1 RR
Matrix: Solid
Percent Solid: 99
Dilution Factor: 2.0
Collection Date: 06/13/13
Lab Receipt Date: 06/13/13
Extraction Date: 06/13/13
Analysis Date: 06/17/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	66	U
PCB-1221	66	U
PCB-1232	66	U
PCB-1242	66	U
PCB-1248	66	**159**
PCB-1254	66	U
PCB-1260	66	U
PCB-1262	66	U
PCB-1268	66	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	94	%
Decachlorobiphenyl	79	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB EXT Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG:
Sample: 75762-1,RR
Data File: M71866.D
Dilution Factor: 2.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1248	154	159	2.7	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

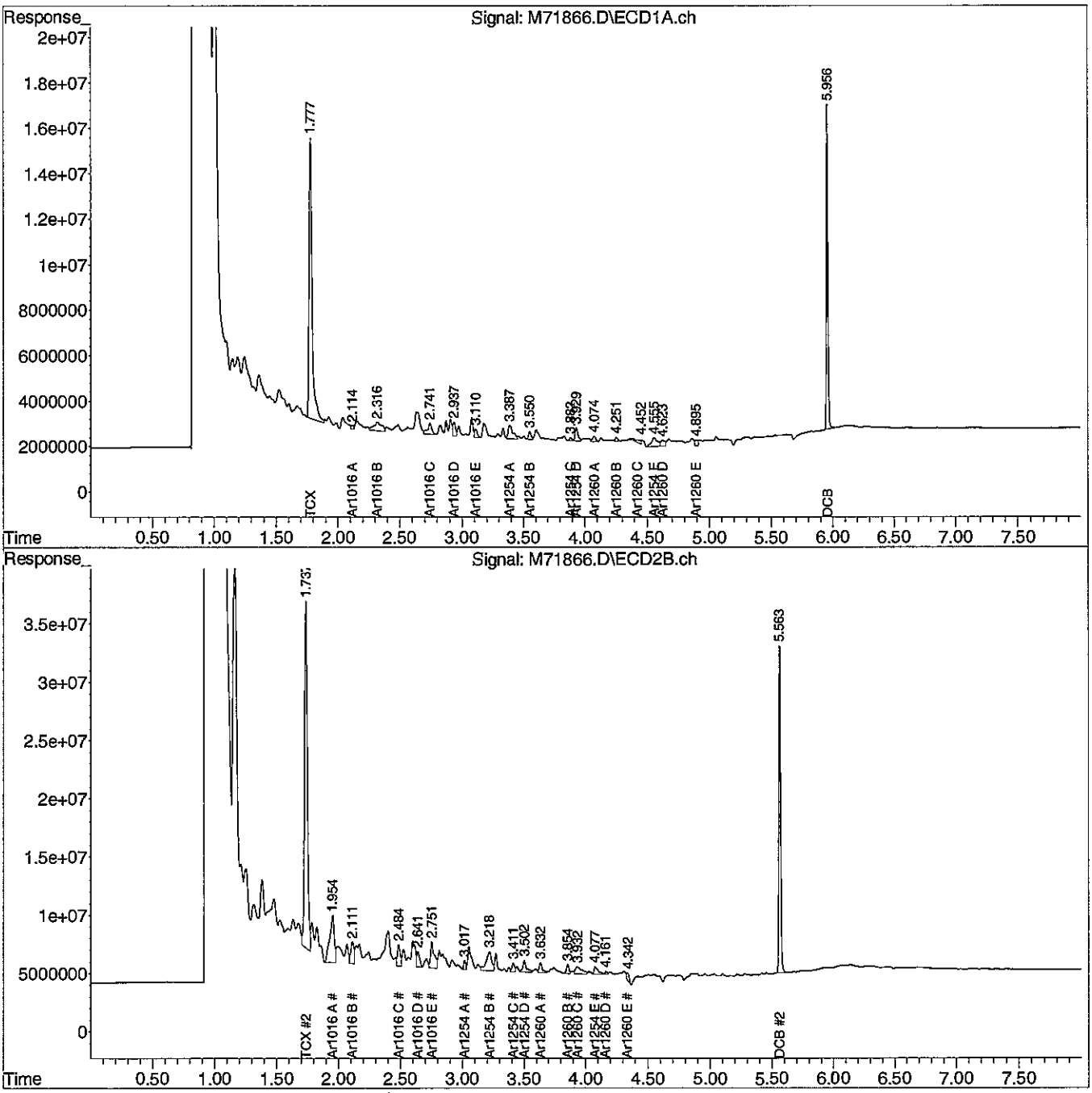
Comments: _____

PCB FORM 10

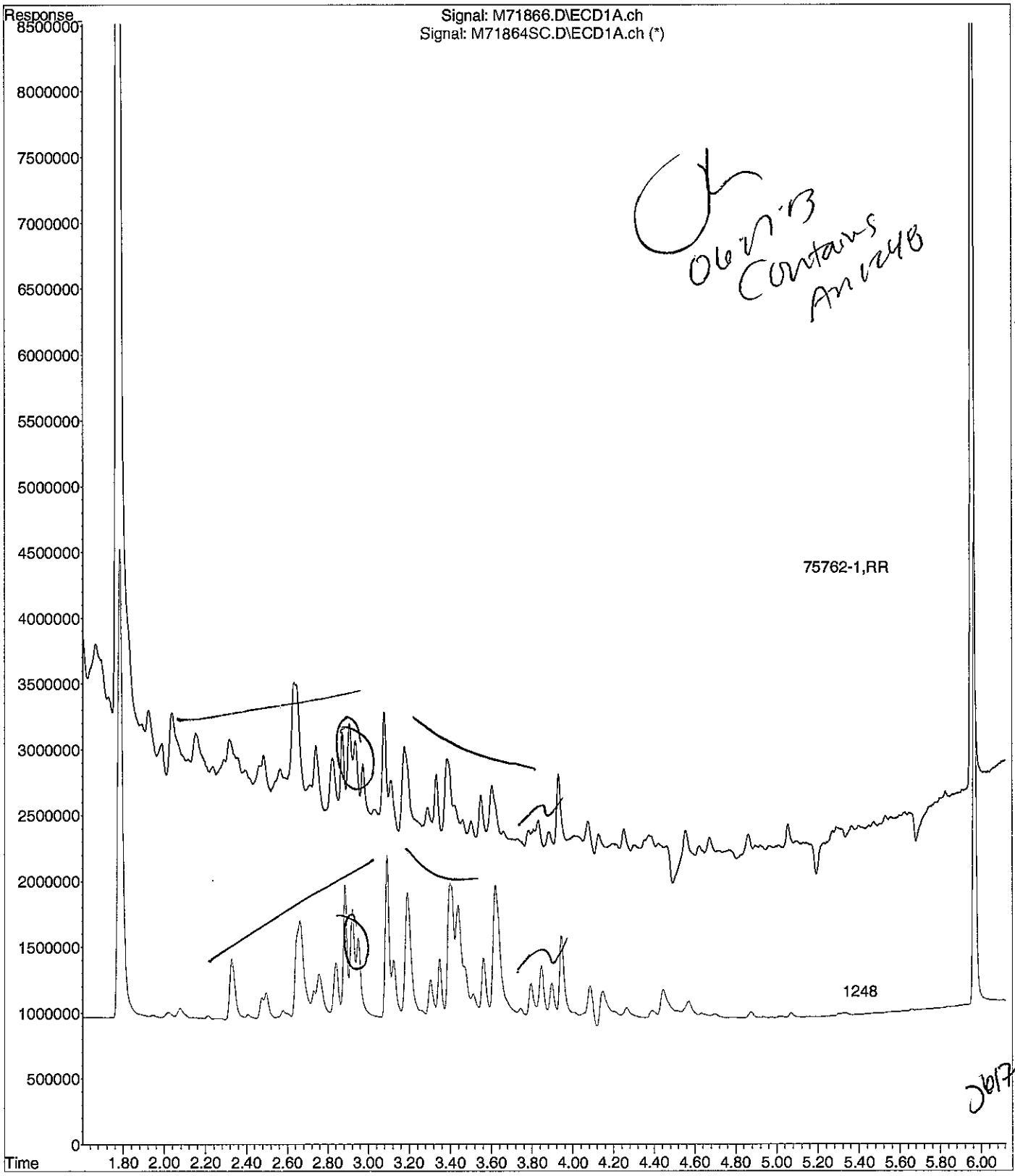
Data Path : C:\msdchem\1\DATA\061713-M\
Data File : M71866.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 17 Jun 2013 2:42 pm
Operator : JK
Sample : 75762-1,RR
Misc : SOIL
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 17 14:51:15 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\061713-M\M71866.D
Operator : JK
Acquired : 17 Jun 2013 2:42 pm using AcqMethod PCB.M
Instrument : Instrument M
Sample Name: 75762-1,RR
Misc Info : SOIL
Vial Number: 7



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June 17, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-GLW1-123

SAMPLE DATA

Lab Sample ID: 75762-2
Matrix: Solid
Percent Solid: 98
Dilution Factor: 1.9
Collection Date: 06/13/13
Lab Receipt Date: 06/13/13
Extraction Date: 06/13/13
Analysis Date: 06/14/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	63	U
PCB-1221	63	U
PCB-1232	63	U
PCB-1242	63	U
PCB-1248	63	U
PCB-1254	63	U
PCB-1260	63	U
PCB-1262	63	U
PCB-1268	63	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	70	%
Decachlorobiphenyl	80	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

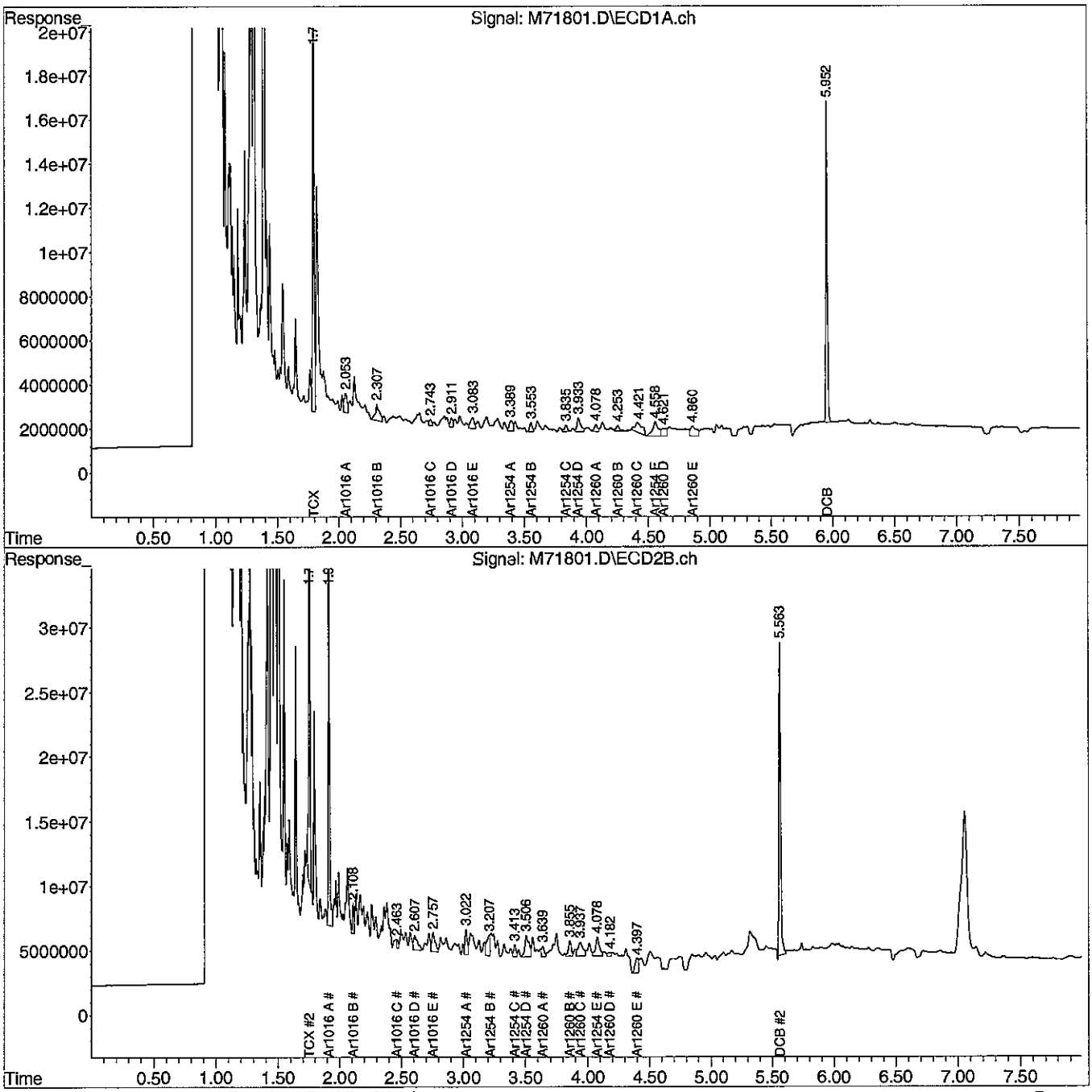
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061413-M\
Data File : M71801.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 Jun 2013 4:16 pm
Operator : JK
Sample : 75762-2
Misc : SOIL
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 17 11:18:38 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Mon Jun 17 09:50:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 17, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-GLW1-124

SAMPLE DATA

Lab Sample ID: 75762-3
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.7
Collection Date: 06/13/13
Lab Receipt Date: 06/13/13
Extraction Date: 06/13/13
Analysis Date: 06/14/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	56	U
PCB-1221	56	U
PCB-1232	56	U
PCB-1242	56	U
PCB-1248	56	U
PCB-1254	56	U
PCB-1260	56	U
PCB-1262	56	U
PCB-1268	56	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	76	%
Decachlorobiphenyl	87	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

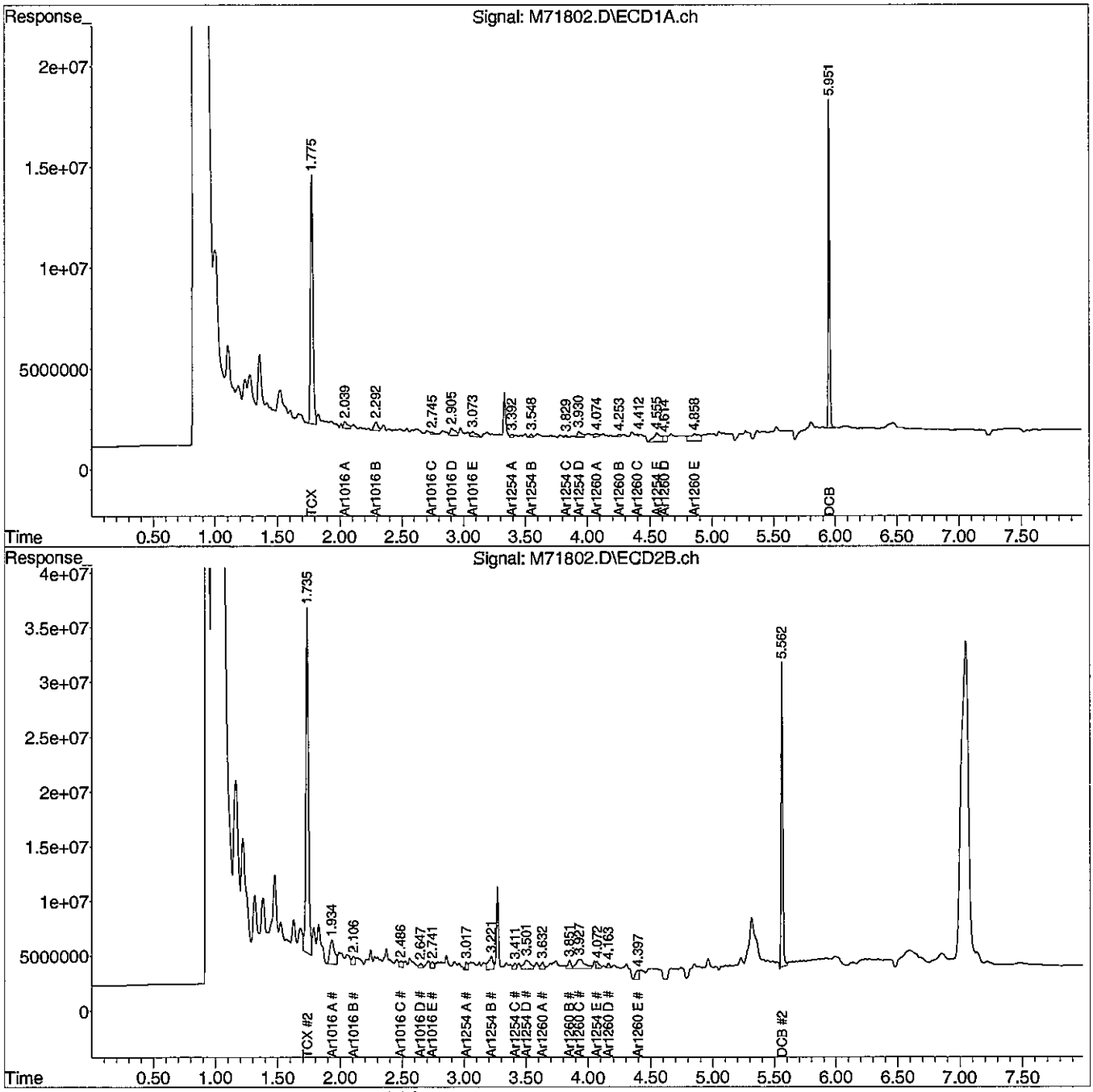
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061413-M\
Data File : M71802.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 Jun 2013 4:26 pm
Operator : JK
Sample : 75762-3
Misc : SOIL
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 17 11:10:43 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Mon Jun 17 09:50:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 17, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBCD-GLW1-125

SAMPLE DATA

Lab Sample ID: 75762-4
Matrix: Solid
Percent Solid: 98
Dilution Factor: 1.9
Collection Date: 06/13/13
Lab Receipt Date: 06/13/13
Extraction Date: 06/13/13
Analysis Date: 06/14/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	63	U
PCB-1221	63	U
PCB-1232	63	U
PCB-1242	63	U
PCB-1248	63	U
PCB-1254	63	U
PCB-1260	63	U
PCB-1262	63	U
PCB-1268	63	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	83	%
Decachlorobiphenyl	91	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

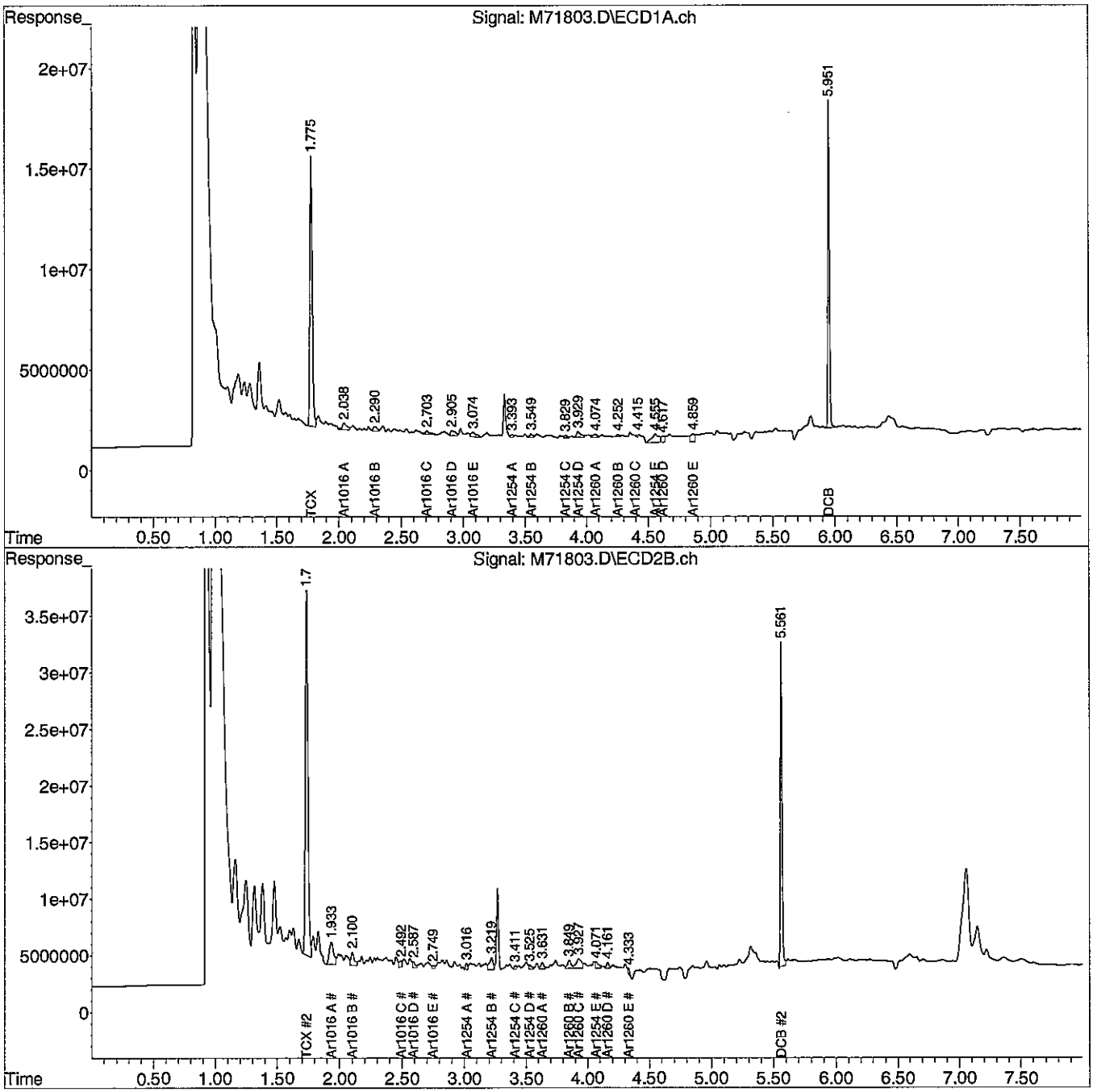
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061413-M\
Data File : M71803.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 Jun 2013 4:36 pm
Operator : JK
Sample : 75762-4
Misc : SOIL
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 17 11:10:45 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Mon Jun 17 09:50:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 17, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-GLS3-126

SAMPLE DATA

Lab Sample ID: 75762-5
Matrix: Solid
Percent Solid: 99
Dilution Factor: 1.8
Collection Date: 06/13/13
Lab Receipt Date: 06/13/13
Extraction Date: 06/13/13
Analysis Date: 06/14/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	59	U
PCB-1221	59	U
PCB-1232	59	U
PCB-1242	59	U
PCB-1248	59	U
PCB-1254	59	U
PCB-1260	59	U
PCB-1262	59	U
PCB-1268	59	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	87	%
Decachlorobiphenyl	88	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

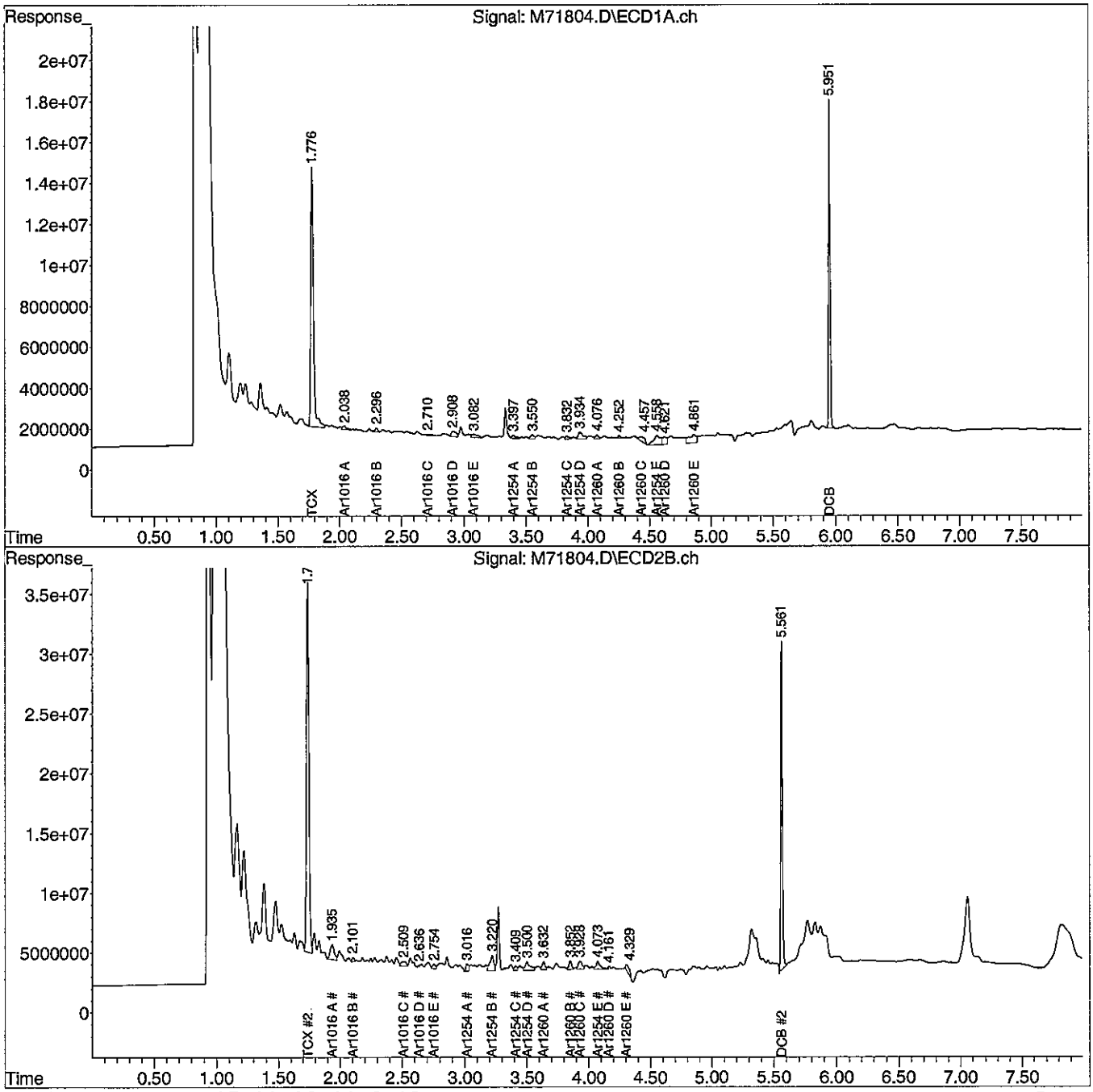
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061413-M\
Data File : M71804.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 Jun 2013 4:46 pm
Operator : JK
Sample : 75762-5
Misc : SOIL
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 17 11:10:47 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Mon Jun 17 09:50:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 17, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-GLS3-127

SAMPLE DATA

Lab Sample ID: 75762-6
Matrix: Solid
Percent Solid: 98
Dilution Factor: 4.1
Collection Date: 06/13/13
Lab Receipt Date: 06/13/13
Extraction Date: 06/13/13
Analysis Date: 06/14/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	135	U
PCB-1221	135	U
PCB-1232	135	U
PCB-1242	135	U
PCB-1248	135	U
PCB-1254	135	U
PCB-1260	135	U
PCB-1262	135	U
PCB-1268	135	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	68	%
Decachlorobiphenyl	89	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

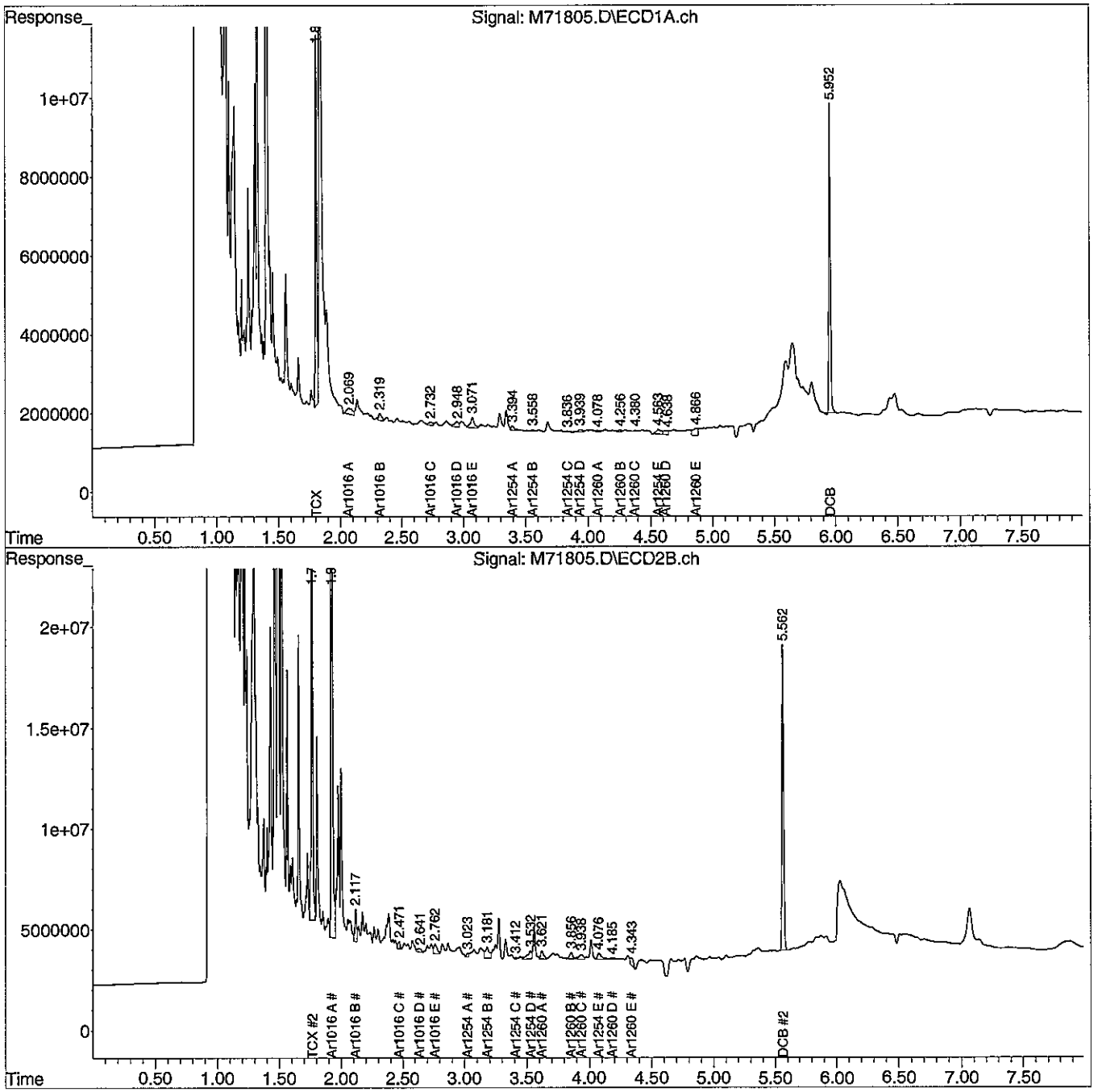
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061413-M\
Data File : M71805.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 Jun 2013 4:56 pm
Operator : JK
Sample : 75762-6
Misc : SOIL
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 17 11:19:22 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Mon Jun 17 09:50:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 17, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBCD-GLS3-129

SAMPLE DATA

Lab Sample ID: 75762-7
Matrix: Solid
Percent Solid: 100
Dilution Factor: 1.9
Collection Date: 06/13/13
Lab Receipt Date: 06/13/13
Extraction Date: 06/13/13
Analysis Date: 06/14/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	63	U
PCB-1221	63	U
PCB-1232	63	U
PCB-1242	63	U
PCB-1248	63	U
PCB-1254	63	U
PCB-1260	63	U
PCB-1262	63	U
PCB-1268	63	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	87	%
Decachlorobiphenyl	89	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

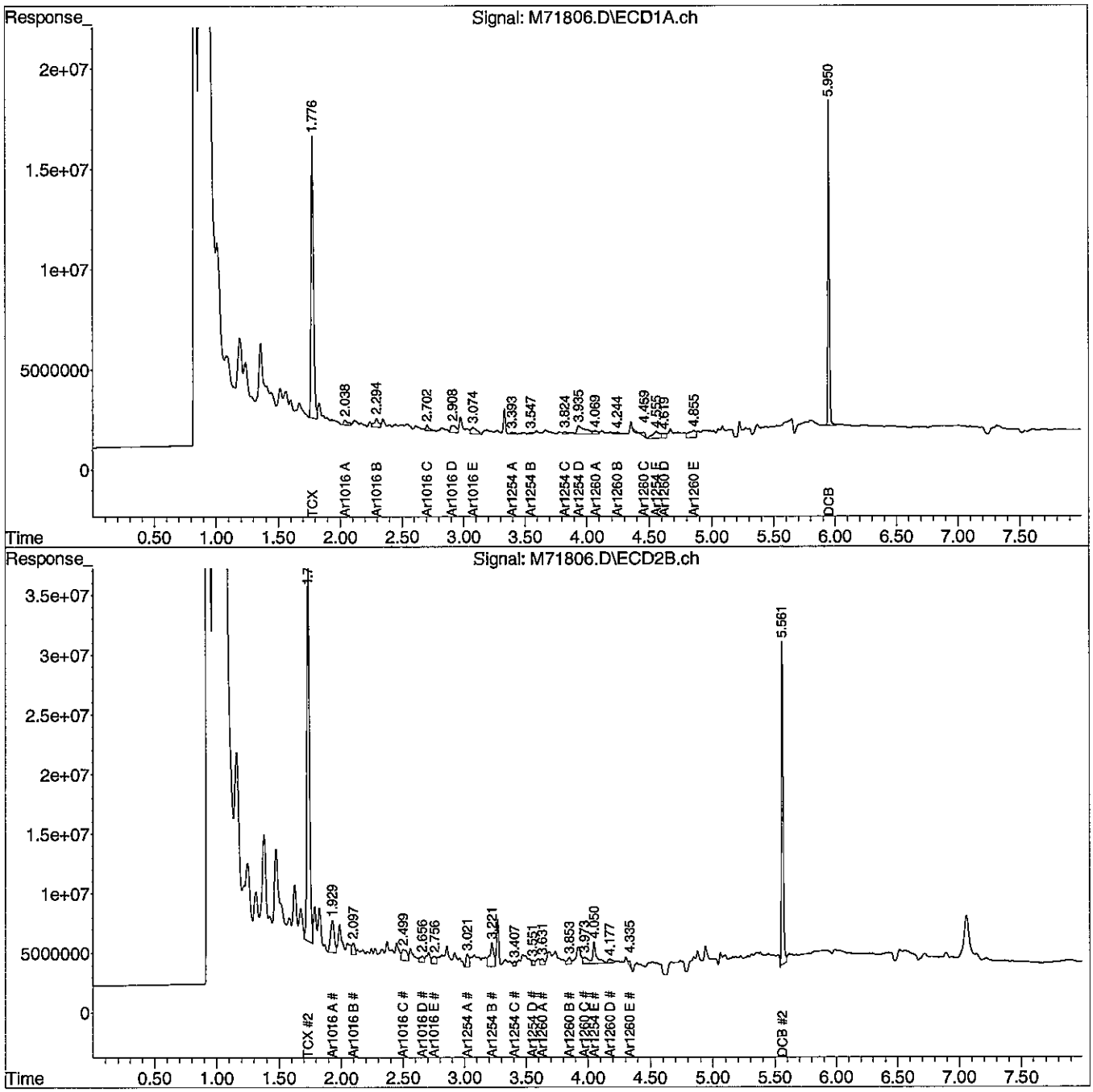
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061413-M\
Data File : M71806.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 Jun 2013 5:06 pm
Operator : JK
Sample : 75762-7
Misc : SOIL
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 17 11:10:51 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Mon Jun 17 09:50:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 17, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBC-GLS3-128

SAMPLE DATA

Lab Sample ID: 75762-8
Matrix: Solid
Percent Solid: 100
Dilution Factor: 1.9
Collection Date: 06/13/13
Lab Receipt Date: 06/13/13
Extraction Date: 06/13/13
Analysis Date: 06/14/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	63	U
PCB-1221	63	U
PCB-1232	63	U
PCB-1242	63	U
PCB-1248	63	U
PCB-1254	63	U
PCB-1260	63	U
PCB-1262	63	U
PCB-1268	63	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	85	%
Decachlorobiphenyl	87	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

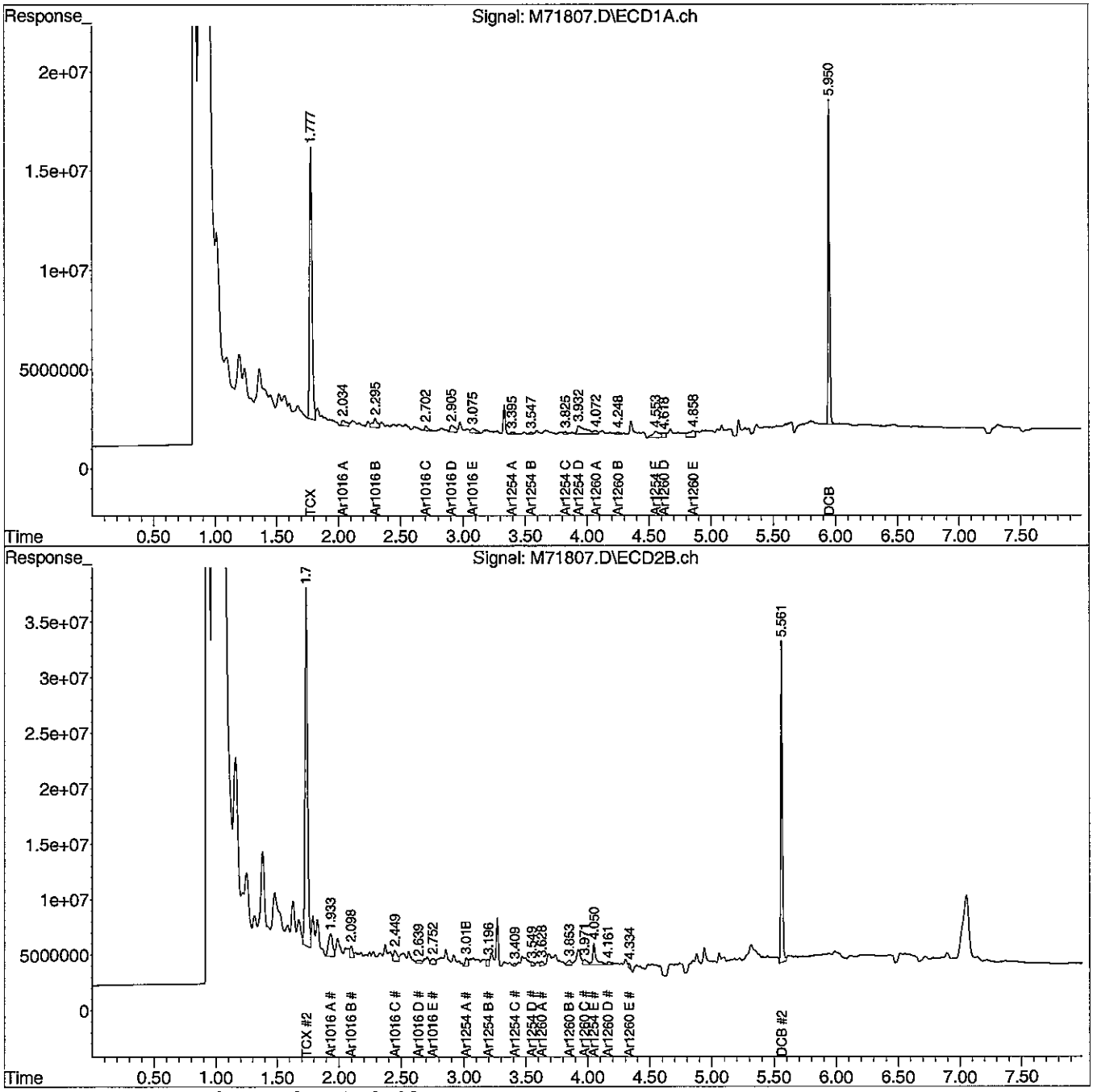
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061413-M\
Data File : M71807.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 Jun 2013 5:16 pm
Operator : JK
Sample : 75762-8
Misc : SOIL
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 17 11:10:53 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Mon Jun 17 09:50:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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June 19, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: TMH-VBCQ-GLS3-130

SAMPLE DATA

Lab Sample ID: 75762-9
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 06/13/13
Lab Receipt Date: 06/13/13
Extraction Date: 06/17/13
Analysis Date: 06/18/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/L	Results µg/L
PCB-1016	0.2	U
PCB-1221	0.2	U
PCB-1232	0.2	U
PCB-1242	0.2	U
PCB-1248	0.2	U
PCB-1254	0.2	U
PCB-1260	0.2	U
PCB-1262	0.2	U
PCB-1268	0.2	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	70	%
Decachlorobiphenyl	50	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample extraction conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3510C.

COMMENTS:

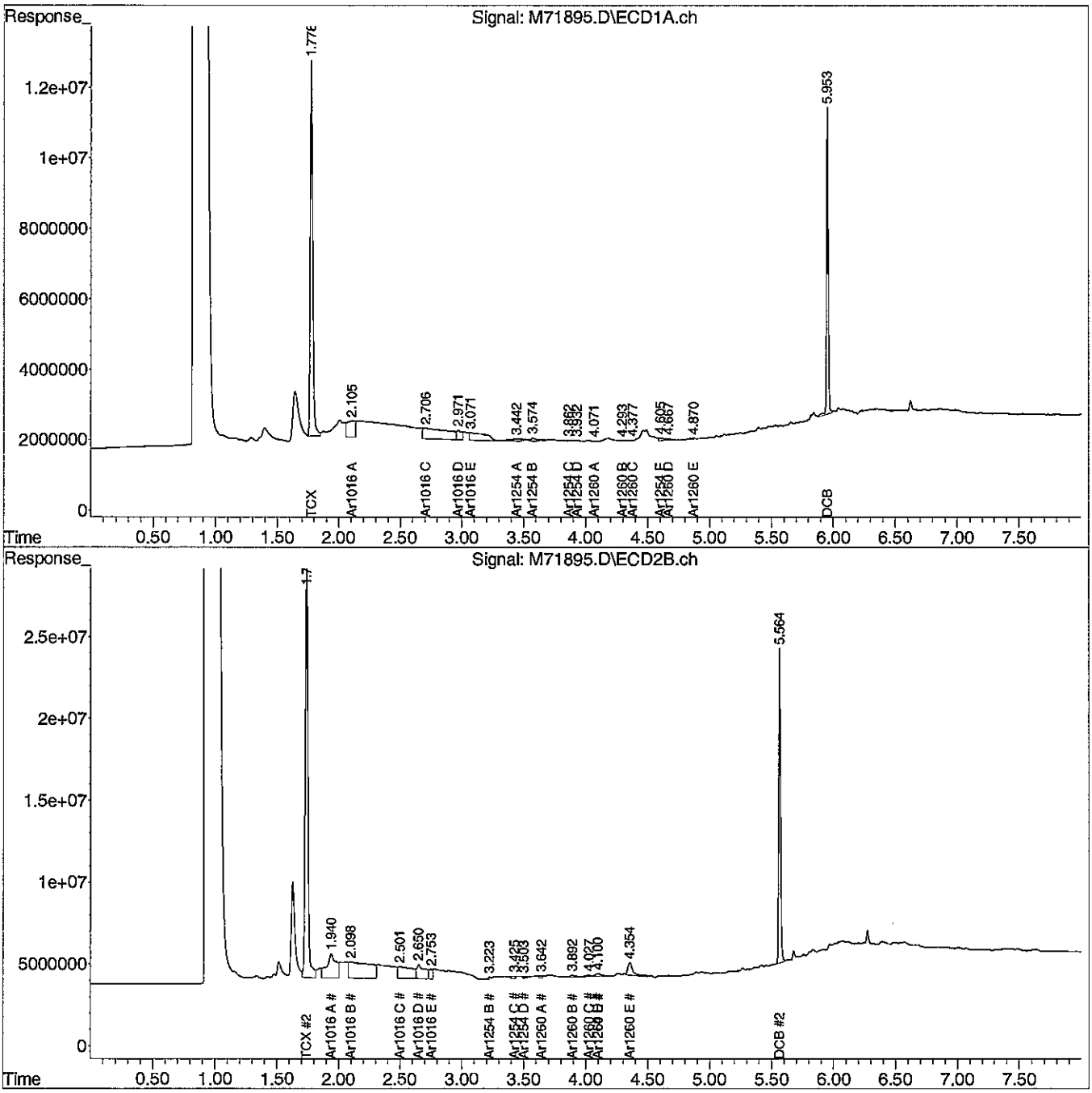
PCB EXT Report

Authorized signature

Data Path : C:\msdchem\1\DATA\061813-M\
Data File : M71895.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 18 Jun 2013 3:34 pm
Operator : JK
Sample : 75762-9
Misc :
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 19 11:12:40 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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PCB
QC FORMS

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:PCBQC.doc

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June 17, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B061313PSOX
Matrix: Soil
Percent Solid: 100
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 06/13/13
Analysis Date: 06/14/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	84	%
Decachlorobiphenyl	92	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

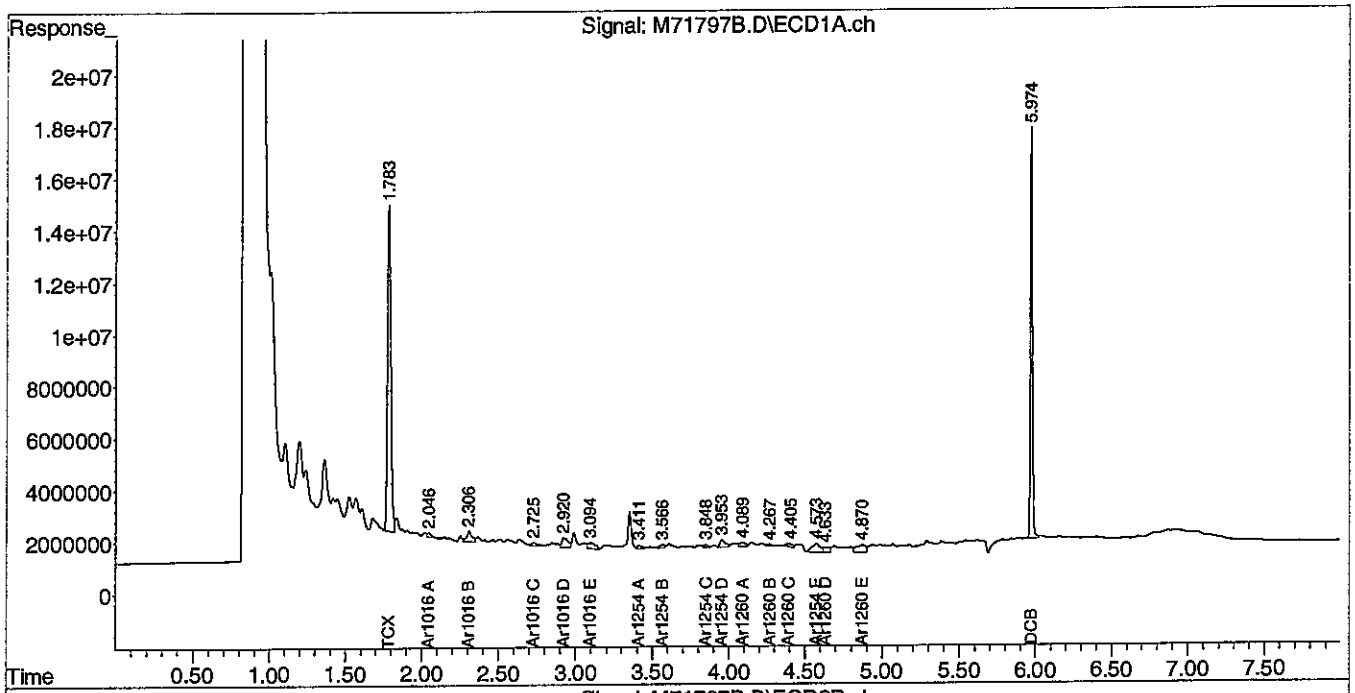
PCB EXT Report

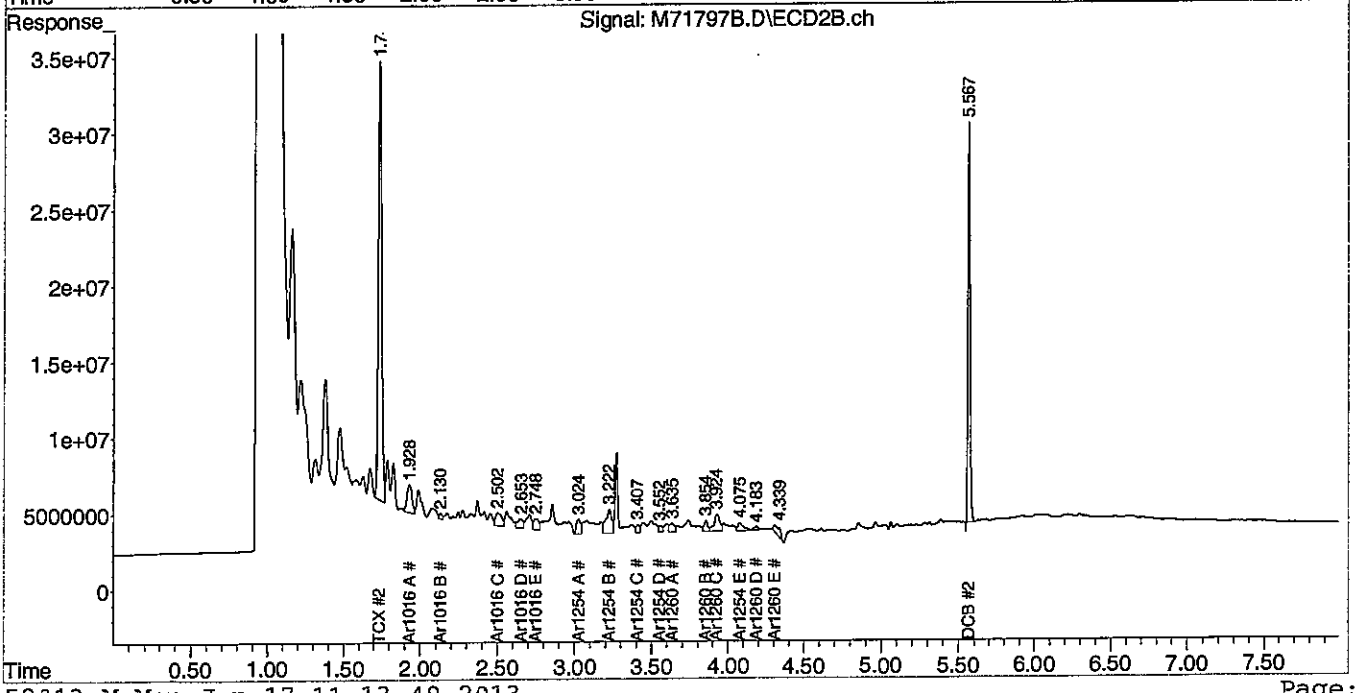
Authorized signature

Data Path : C:\msdchem\1\DATA\061413-M\
Data File : M71797B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 Jun 2013 3:35 pm
Operator : JK
Sample : B061313PSOX
Misc : SOIL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 17 11:10:33 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Mon Jun 17 09:50:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 17, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B061313PSOX RR
Matrix: Soil
Percent Solid: 100
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 06/13/13
Analysis Date: 06/17/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	92	%
Decachlorobiphenyl	83	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A. Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

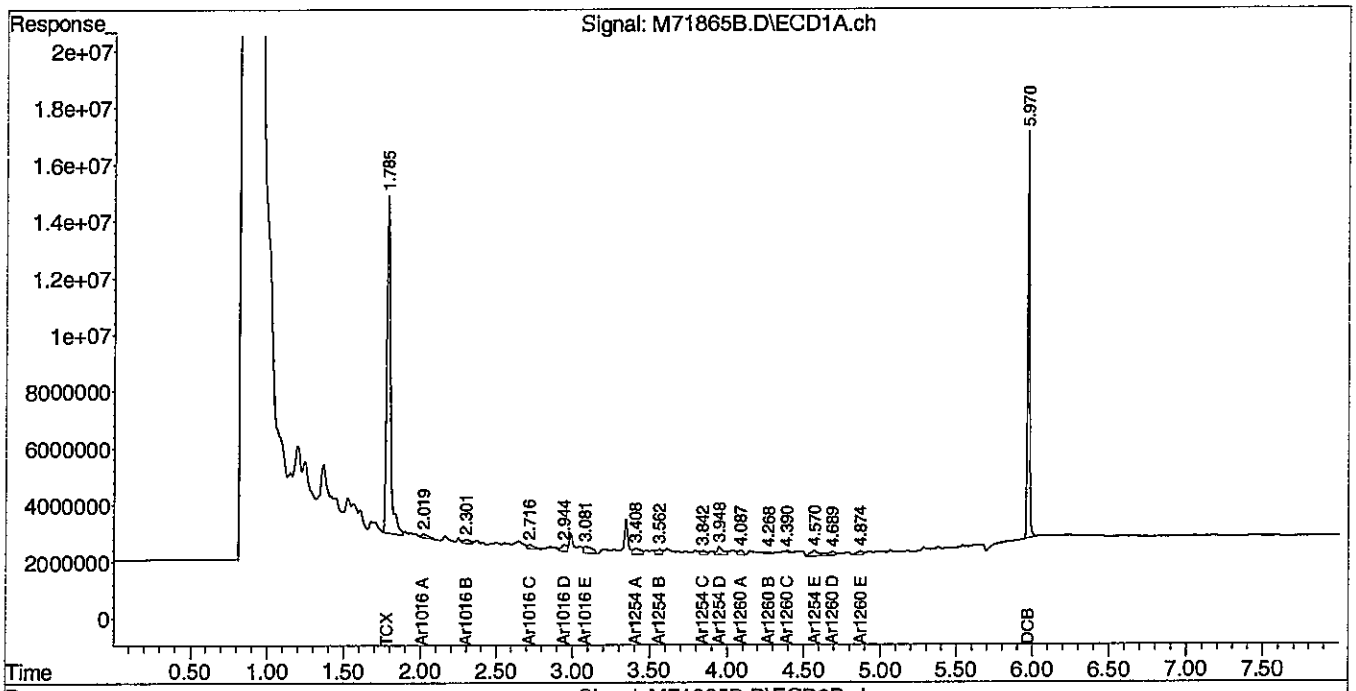
PCB EXT Report

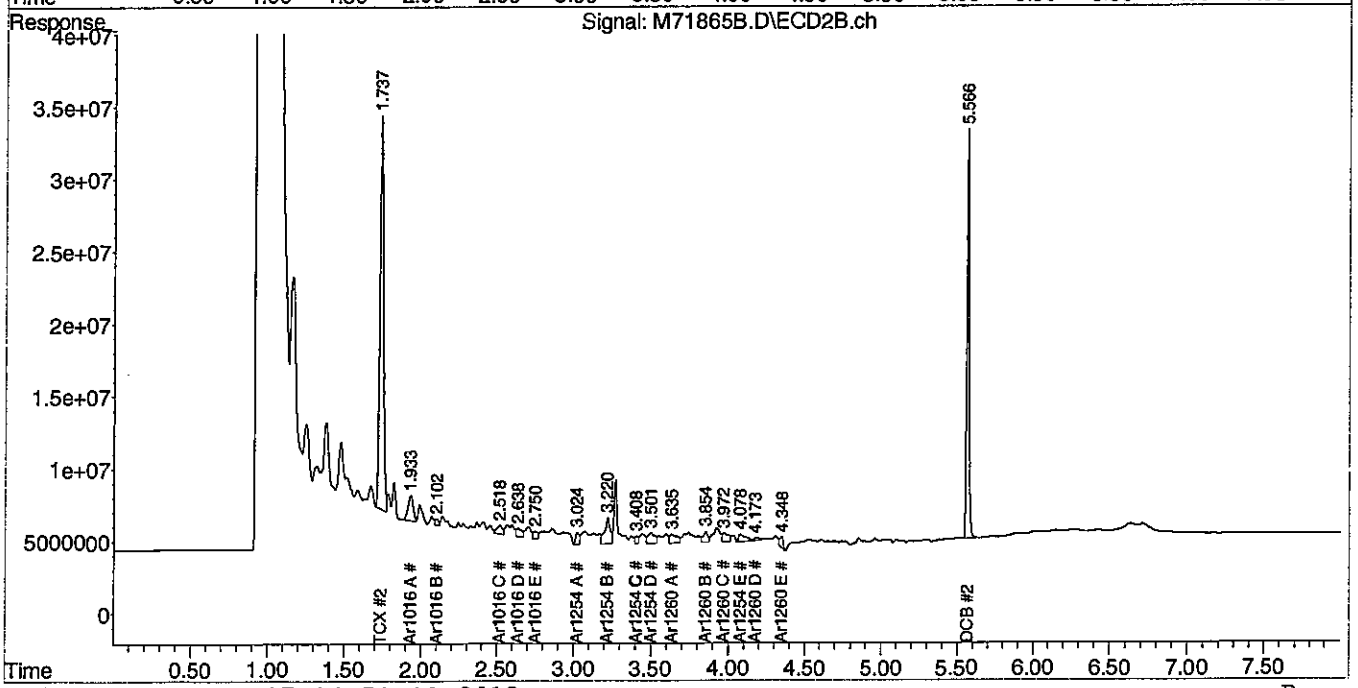
Authorized signature

Data Path : C:\msdchem\1\DATA\061713-M\
Data File : M71865B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 17 Jun 2013 2:32 pm
Operator : JK
Sample : B061313PSOX,RR
Misc : SOIL
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 17 14:51:04 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





analytics environmental laboratory LLC

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Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Ms. Amy Martin
Woodard & Curran
41 Hutchins Drive
Portland ME 04102

June 19, 2013

CLIENT SAMPLE ID

Project Name: Tuchman Hall

Project Number: 226333

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B061713PW
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 06/17/13
Analysis Date: 06/18/13

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/L	Results µg/L
PCB-1016	0.2	U
PCB-1221	0.2	U
PCB-1232	0.2	U
PCB-1242	0.2	U
PCB-1248	0.2	U
PCB-1254	0.2	U
PCB-1260	0.2	U
PCB-1262	0.2	U
PCB-1268	0.2	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	49	%
Decachlorobiphenyl	39	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082A.
Sample extraction conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3510C.

COMMENTS:

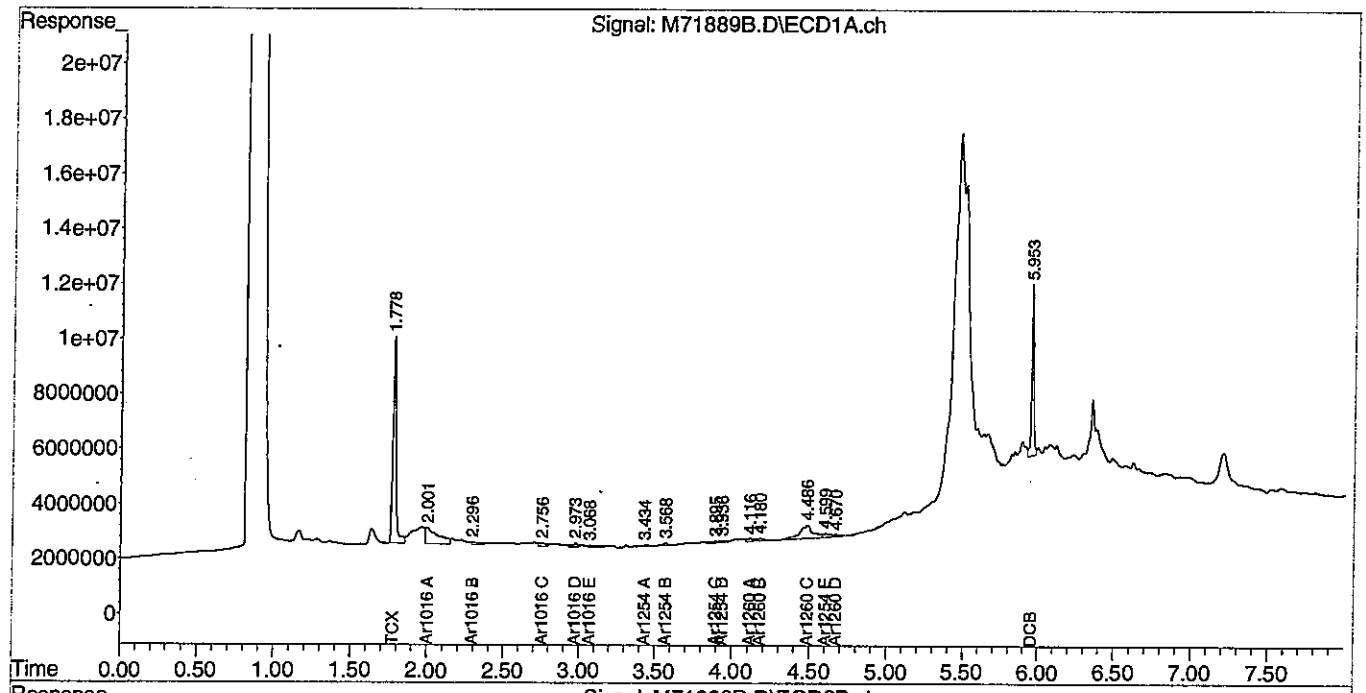
PCB EXT Report

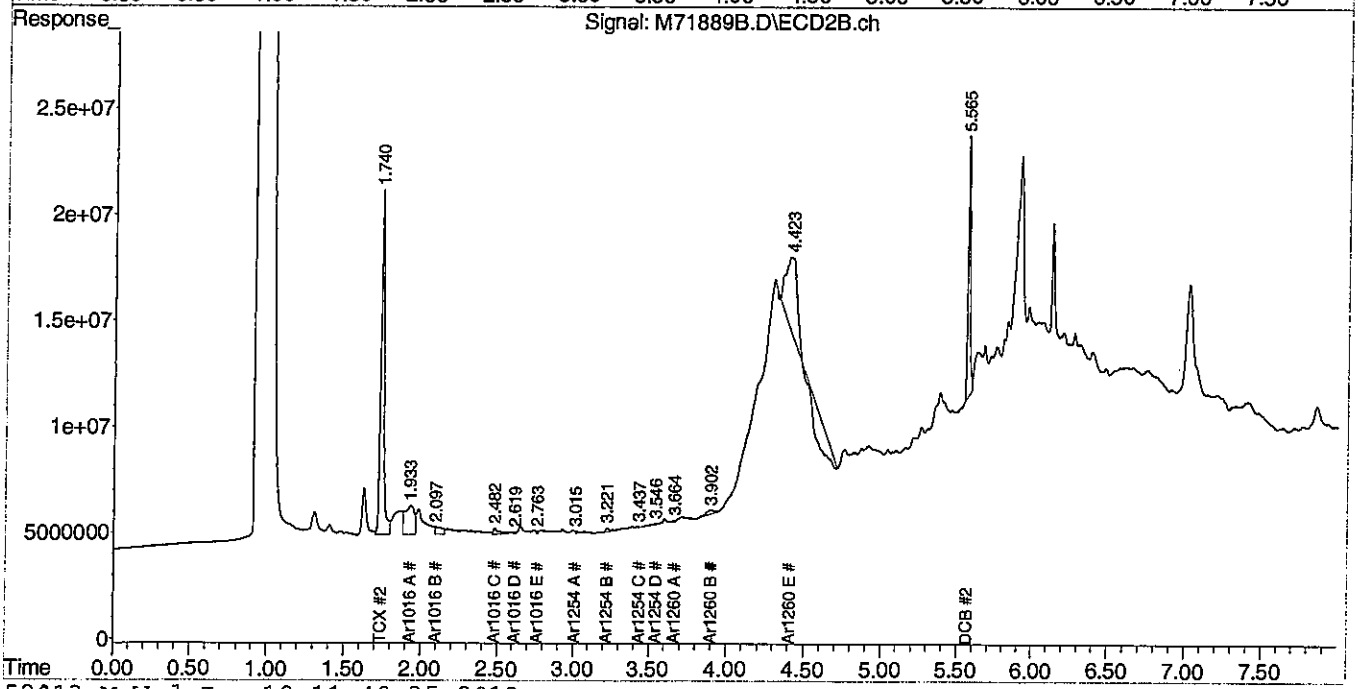
Authorized signature

Data Path : C:\msdchem\1\DATA\061813-M\
Data File : M71889B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 18 Jun 2013 2:33 pm
Operator : JK
Sample : B061713PW
Misc :
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 19 11:12:28 2013
Quant Method : C:\msdchem\1\METHODS\PCB052013.M
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254
QLast Update : Tue Jun 04 12:02:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 2 uL
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides 1
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 75762

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B061313PSOX	84		92		77		57	
L061313PSOX	80		96		72		67	
LD061313PSOX	80		95		72		63	
75762-2	70		80		54		53	
75762-3	76		87		82		60	
75762-4	83		91		81		62	
75762-5	87		88		77		59	
75762-6	68		89		70		67	
75762-7	87		89		82		60	
75762-8	85		87		82		63	

	Lower Limit	Upper Limit
SMC #1 = TCX	40	130
SMC #2 = DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides 1 SDG: 75762
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B061313PSOX,RR	92		83		79		65	
75762-1,RR	94		79		84		64	

	Lower Limit	Upper Limit
SMC #1 = TCX	40	130
SMC #2 = DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB AQUEOUS
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 75762

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B061713PW	49		40		44		29	*
L061713PWB	58		46		57		38	
LD061713PWB	62		51		60		44	
75762-9	70		50		71		43	

	Lower Limit	Upper Limit
SMC #1 = TCX	30	150
SMC #2 = DCB	30	150

Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides 1 — SDG:

Column ID: 0.25 mm — Non-spiked sample: B061313PSDX

GC Column #2: STX-CLPesticides II — Spike: L061313PSDX

Column ID: 0.25 mm — Spike duplicate: LD061313PSDX

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	191	95		205	103		7.3	
PCB 1260	200	200	60	130	30	0	212	106		213	106		0.2	
PCB 1016 #2	200	200	65	140	30	0	175	88		187	94		6.6	
PCB 1260 #2	200	200	60	130	30	0	183	92		182	91		0.8	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

PCB AQUEOUS
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG:

Non-spiked sample: B061713PW

Spike: L061713PWB

Spike duplicate: LD061713PWB

COMPOUND	LCS SPIKE ADDED (ug/L)	LCSD SPIKE ADDED (ug/L)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NDN-SPIKE RESULT (ug/L)	SPIKE RESULT (ug/L)	SPIKE % REC	#	SPIKE DUP RESULT (ug/L)	SPIKE DUP % REC	#	RPD	#
PCB 1016	2.0	2.0	63	130	25	0.0	1.4	72.2		1.3	64.1		11.9	
PCB 1260	2.0	2.0	58	115	25	0.0	1.3	66.2		1.3	67.4		1.8	
PCB 1016 #2	2.0	2.0	70	130	25	0.0	1.5	72.8		1.5	75.3		3.4	
PCB 1260 #2	2.0	2.0	54	123	25	0.0	1.1	56.2		1.1	57.4		2.1	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been volume adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

analytics environmental laboratory LLC

CHAIN OF CUSTODIES

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:COC.doc

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 4 03/28/08

Samples were:
1) Shipped or hand-delivered
2) Temp blank °C 5-3-C
3) Received in good condition Y or N
4) pH checked by: NA
5) Labels checked by: 6/13/13

Project#: 226333 Proj. Name: Tuckman Hall
Company: Woodard & Curran
Contact: Amy Martin
Address: 41 Hutchins Drive
Portland ME
Phone: PO# Quote #
Sampler (Signature): JR

Matrix Key: C = Concrete, WP = Wipe, WW = Wastewater, SW = Surface Water, GW = Groundwater, DW = Drinking Water, S = Soil/Sludge, O = Oil, E = Extract, X = Other

Container Key: P=plastic G=glass

Preservation: Unpres, 4° C, HNO_3, H_2SO_4, HCL, Methanol, Other

Station Identification	Sample Date	Sample Time	Analysis	Matrix	Containr number/typ		pH	Analytics Sample #
TMH-VBC-GLW1-122	6/13/13	1110	PCBs	C	1	G		75762-1
TMH-VBC-GLW1-123		1120	PCBs	C	1	G		2
TMH-VBC-GLW1-124		1130	PCBs	C	1	G		3
TMH-VBCD-GLW1-125	6/13/13	1135	PCBs	C	1	G		4
TMH-VBC-GLS3-126		1230		C	1	G		5
TMH-VBC-GLS3-127		1235		C	1	G		6
TMH-VBCD-GLS3-129		1250		Brick	1	G		7
TMH-VBC-GLS3-128	6/13/13	1245	PCBs	Brick	1	G		8
TMH-VBCQ-GLS3-130	6/13/13	1400	PCBs	W	1	G		9

Received By: Time: 1400 Date: 6/13/13

Email Results to: jhamel@woodardcurran.com; gmartin@woodardcurran.com; JR-55411@woodardcurran.com

Comments / Instructions: PCBs 8082 Soxhlet

Turnaround Request: Standard ☐ Due Date ____ Priority ☒ Due Date 48 hr TAT

Lab Approval Required

Project Requirements:

Report Type: ☒ MCP ☒ Level II ☐ CTRC ☐ Level III ☐ DOD ☐ Level IV ☐ Standard

*Fee may apply

State: ☐ NH ☒ MA ☐ ME ☐ CT ☐ RI Other: ____

State Standard: ____ (eg. S-1 or GW-1)

EDD Required: Y* N

Type: ____

Page 1 of 1

Analytics\AEL Documents\AEL COC

ANALYTICS SAMPLE RECEIPT CHECKLIST

analytics environmental laboratory LLC

AEL LAB#: 75762 COOLER NUMBER: 345

CLIENT: WOODARD NUMBER OF COOLERS: 1

PROJECT: TUCHMAN HALL

A: PRELIMINARY EXAMINATION:

1. Cooler received by(initials): DA DATE COOLER RECEIVED/OPENED: 6/13/13

2. Circle one: (Hand delivered) Shipped
(If so, skip 3)

3. Did cooler come with a shipping slip? Y (N)

3a. Enter carrier name and airbill number here: _____

4. Were custody seals on the outside of cooler? Y (N)
How many & where: _____ Seal Date: _____ Seal Name: _____

5. Did the custody seals arrive unbroken and intact upon arrival? Y N NA

6. COC#: _____

7. Were Custody papers filled out properly (ink,signed, legible, project information etc)? (Y) N

8. Were custody papers sealed in a plastic bag? (Y) N

9. Did you sign the COC in the appropriate place? (Y) N

10. Was enough ice used to chill the cooler? (Y) N Temp. of cooler: 5.3°C

B. Log-In: Date samples were logged in: 6/13/13 By: DA

11. Were all bottles sealed in separate plastic bags? Y (N)

12. Did all bottles arrive unbroken and were labels in good condition? (Y) N

13. Were all bottle labels complete(ID,Date,time,etc.) (Y) N

14. Did all bottle labels agree with custody papers? (Y) N

15. Were the correct containers used for the tests indicated: (Y) N

16. Were samples received at the correct pH? Y N NA

17. Was sufficient amount of sample sent for the tests indicated? (Y) N

18. Were all samples submitted within holding time? (Y) N

19. Were all containers used within AEL 's expiration date?** Y N NA

20. Were VOA samples absent of greater than pea-sized bubbles? Y N* NA
(Note:Pea-sized bubbles or smaller are acceptable and are not considered to adversely affect volatiles data.)

*If NO, List Sample ID's, Lab #s: _____

When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): _____ Date: 6/13/13

**The expiration date is recommended by Analytics Environmental Laboratory and not the method. Therefore this does not mean that the results are non-compliant.

C:ANLYTICS LLC\AEL DOCUMENTS\FORMS\SMPL CHKLST\Edit 4908

Rev. 6, 8/27/12

ANALYTICAL REPORT

Lab Number:	L1311256
Client:	Woodard & Curran 41 Hutchins Drive Portland, ME 04102
ATTN:	Amy Martin
Phone:	(207) 774-2112
Project Name:	TUCHMAN HALL
Project Number:	Not Specified
Report Date:	06/21/13

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1311256-01	TMH-VBC-FFS2-131	CAMBRIDGE, MA	06/19/13 07:30
L1311256-02	TMH-VBC-FFS3-132	CAMBRIDGE, MA	06/19/13 07:35
L1311256-03	TMH-VBC-FFS3-133	CAMBRIDGE, MA	06/19/13 07:45
L1311256-04	TMH-VBC-FFS3-135	CAMBRIDGE, MA	06/19/13 08:10
L1311256-05	TMH-VBC-FFS3-134	CAMBRIDGE, MA	06/19/13 12:10
L1311256-06	TMH-VBCQ-FFS3-136	CAMBRIDGE, MA	06/19/13 11:55

Project Name:	TUCHMAN HALL	**Lab Number:**	L1311256
Project Number:	Not Specified	**Report Date:**	06/21/13

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: TUCHMAN HALL
Project Number: Not Specified
Lab Number: L1311256
Report Date: 06/21/13

Case Narrative (continued)

MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 06/21/13

ORGANICS

PCBS

Project Name: TUCHMAN HALL
Project Number: Not Specified
Lab Number: L1311256
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID:	L1311256-01	Date Collected:	06/19/13 07:30
Client ID:	TMH-VBC-FFS2-131	Date Received:	06/19/13
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	06/19/13 21:40
Analytical Date:	06/20/13 20:48	Cleanup Method1:	EPA 3665A
Analyst:	KB	Cleanup Date1:	06/20/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	06/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug/kg	58.1	--	1
Aroclor 1221	ND		ug/kg	58.1	--	1
Aroclor 1232	ND		ug/kg	58.1	--	1
Aroclor 1242	ND		ug/kg	58.1	--	1
Aroclor 1248	ND		ug/kg	38.7	--	1
Aroclor 1254	ND		ug/kg	58.1	--	1
Aroclor 1260	ND		ug/kg	38.7	--	1
Aroclor 1262	ND		ug/kg	19.4	--	1
Aroclor 1268	ND		ug/kg	19.4	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	81		30-150
Decachlorobiphenyl	97		30-150
2,4,5,6-Tetrachloro-m-xylene	69		30-150
Decachlorobiphenyl	91		30-150

Project Name: TUCHMAN HALL
Project Number: Not Specified
Lab Number: L1311256
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID:	L1311256-02	Date Collected:	06/19/13 07:35
Client ID:	TMH-VBC-FFS3-132	Date Received:	06/19/13
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	06/19/13 21:40
Analytical Date:	06/20/13 21:01	Cleanup Method1:	EPA 3665A
Analyst:	KB	Cleanup Date1:	06/20/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	06/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug/kg	60.1	--	1
Aroclor 1221	ND		ug/kg	60.1	--	1
Aroclor 1232	ND		ug/kg	60.1	--	1
Aroclor 1242	ND		ug/kg	60.1	--	1
Aroclor 1248	ND		ug/kg	40.1	--	1
Aroclor 1254	ND		ug/kg	60.1	--	1
Aroclor 1260	ND		ug/kg	40.1	--	1
Aroclor 1262	ND		ug/kg	20.0	--	1
Aroclor 1268	ND		ug/kg	20.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	40		30-150
Decachlorobiphenyl	50		30-150
2,4,5,6-Tetrachloro-m-xylene	38		30-150
Decachlorobiphenyl	50		30-150

Project Name: TUCHMAN HALL
Project Number: Not Specified
Lab Number: L1311256
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID:	L1311256-03	Date Collected:	06/19/13 07:45
Client ID:	TMH-VBC-FFS3-133	Date Received:	06/19/13
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	06/19/13 21:40
Analytical Date:	06/20/13 21:14	Cleanup Method1:	EPA 3665A
Analyst:	KB	Cleanup Date1:	06/20/13
Percent Solids:	98%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	06/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug/kg	60.7	--	1
Aroclor 1221	ND		ug/kg	60.7	--	1
Aroclor 1232	ND		ug/kg	60.7	--	1
Aroclor 1242	ND		ug/kg	60.7	--	1
Aroclor 1248	ND		ug/kg	40.5	--	1
Aroclor 1254	ND		ug/kg	60.7	--	1
Aroclor 1260	ND		ug/kg	40.5	--	1
Aroclor 1262	ND		ug/kg	20.2	--	1
Aroclor 1268	ND		ug/kg	20.2	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	74		30-150
Decachlorobiphenyl	93		30-150
2,4,5,6-Tetrachloro-m-xylene	71		30-150
Decachlorobiphenyl	93		30-150

Project Name: TUCHMAN HALL
Project Number: Not Specified
Lab Number: L1311256
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID:	L1311256-04	Date Collected:	06/19/13 08:10
Client ID:	TMH-VBC-FFS3-135	Date Received:	06/19/13
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	06/19/13 21:40
Analytical Date:	06/20/13 21:27	Cleanup Method1:	EPA 3665A
Analyst:	KB	Cleanup Date1:	06/20/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	06/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug/kg	58.8	--	1
Aroclor 1221	ND		ug/kg	58.8	--	1
Aroclor 1232	ND		ug/kg	58.8	--	1
Aroclor 1242	ND		ug/kg	58.8	--	1
Aroclor 1248	ND		ug/kg	39.2	--	1
Aroclor 1254	89.8		ug/kg	58.8	--	1
Aroclor 1260	ND		ug/kg	39.2	--	1
Aroclor 1262	ND		ug/kg	19.6	--	1
Aroclor 1268	ND		ug/kg	19.6	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	86		30-150
Decachlorobiphenyl	100		30-150
2,4,5,6-Tetrachloro-m-xylene	83		30-150
Decachlorobiphenyl	94		30-150

Project Name: TUCHMAN HALL
Project Number: Not Specified
Lab Number: L1311256
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID:	L1311256-05	Date Collected:	06/19/13 12:10
Client ID:	TMH-VBC-FFS3-134	Date Received:	06/19/13
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Brick	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	06/19/13 21:40
Analytical Date:	06/20/13 21:41	Cleanup Method1:	EPA 3665A
Analyst:	KB	Cleanup Date1:	06/20/13
Percent Solids:	100%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	06/20/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug/kg	57.5	--	1
Aroclor 1221	ND		ug/kg	57.5	--	1
Aroclor 1232	ND		ug/kg	57.5	--	1
Aroclor 1242	ND		ug/kg	57.5	--	1
Aroclor 1248	ND		ug/kg	38.4	--	1
Aroclor 1254	ND		ug/kg	57.5	--	1
Aroclor 1260	ND		ug/kg	38.4	--	1
Aroclor 1262	ND		ug/kg	19.2	--	1
Aroclor 1268	ND		ug/kg	19.2	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	66		30-150
Decachlorobiphenyl	82		30-150
2,4,5,6-Tetrachloro-m-xylene	67		30-150
Decachlorobiphenyl	95		30-150

Project Name: TUCHMAN HALL
Lab Number: L1311256
Project Number: Not Specified
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID:	L1311256-06	Date Collected:	06/19/13 11:55
Client ID:	TMH-VBCQ-FFS3-136	Date Received:	06/19/13
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	97,8082A	Extraction Date:	06/19/13 20:04
Analytical Date:	06/20/13 16:59	Cleanup Method1:	EPA 3665A
Analyst:	KB	Cleanup Date1:	06/19/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	06/19/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug/l	0.250	--	1
Aroclor 1221	ND		ug/l	0.250	--	1
Aroclor 1232	ND		ug/l	0.250	--	1
Aroclor 1242	ND		ug/l	0.250	--	1
Aroclor 1248	ND		ug/l	0.250	--	1
Aroclor 1254	ND		ug/l	0.250	--	1
Aroclor 1260	ND		ug/l	0.250	--	1
Aroclor 1262	ND		ug/l	0.250	--	1
Aroclor 1268	ND		ug/l	0.250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	71		30-150
Decachlorobiphenyl	81		30-150
2,4,5,6-Tetrachloro-m-xylene	74		30-150
Decachlorobiphenyl	93		30-150

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 06/20/13 17:11
Analyst: KB

Extraction Method: EPA 3510C
Extraction Date: 06/19/13 20:04
Cleanup Method1: EPA 3665A
Cleanup Date1: 06/19/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 06/19/13

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 06 Batch: WG616199-1					
Aroclor 1016	ND		ug/l	0.250	--
Aroclor 1221	ND		ug/l	0.250	--
Aroclor 1232	ND		ug/l	0.250	--
Aroclor 1242	ND		ug/l	0.250	--
Aroclor 1248	ND		ug/l	0.250	--
Aroclor 1254	ND		ug/l	0.250	--
Aroclor 1260	ND		ug/l	0.250	--
Aroclor 1262	ND		ug/l	0.250	--
Aroclor 1268	ND		ug/l	0.250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	66		30-150
Decachlorobiphenyl	82		30-150
2,4,5,6-Tetrachloro-m-xylene	64		30-150
Decachlorobiphenyl	92		30-150

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 06/20/13 21:54
Analyst: KB

Extraction Method: EPA 3540C
Extraction Date: 06/19/13 21:40
Cleanup Method1: EPA 3665A
Cleanup Date1: 06/20/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 06/20/13

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-05 Batch: WG616218-1					
Aroclor 1016	ND		ug/kg	58.6	--
Aroclor 1221	ND		ug/kg	58.6	--
Aroclor 1232	ND		ug/kg	58.6	--
Aroclor 1242	ND		ug/kg	58.6	--
Aroclor 1248	ND		ug/kg	39.1	--
Aroclor 1254	ND		ug/kg	58.6	--
Aroclor 1260	ND		ug/kg	39.1	--
Aroclor 1262	ND		ug/kg	19.5	--
Aroclor 1268	ND		ug/kg	19.5	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	68		30-150
Decachlorobiphenyl	86		30-150
2,4,5,6-Tetrachloro-m-xylene	67		30-150
Decachlorobiphenyl	77		30-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 06 Batch: WG616199-2 WG616199-3								
Aroclor 1016	84		84		40-140	0		20
Aroclor 1260	81		90		40-140	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	71		71		30-150
Decachlorobiphenyl	83		85		30-150
2,4,5,6-Tetrachloro-m-xylene	70		71		30-150
Decachlorobiphenyl	92		95		30-150

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-05 Batch: WG616218-2 WG616218-3								
Aroclor 1016	72		68		40-140	6		30
Aroclor 1260	75		72		40-140	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	69		72		30-150
Decachlorobiphenyl	86		93		30-150
2,4,5,6-Tetrachloro-m-xylene	69		72		30-150
Decachlorobiphenyl	87		92		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID: L1311256-01
Client ID: TMH-VBC-FFS2-131
Sample Location: CAMBRIDGE, MA
Matrix: Concrete

Date Collected: 06/19/13 07:30
Date Received: 06/19/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.3		%	0.100	NA	1	-	06/20/13 01:26	30,2540G	RD

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID: L1311256-02
Client ID: TMH-VBC-FFS3-132
Sample Location: CAMBRIDGE, MA
Matrix: Concrete

Date Collected: 06/19/13 07:35
Date Received: 06/19/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.8		%	0.100	NA	1	-	06/20/13 01:26	30,2540G	RD

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID: L1311256-03
Client ID: TMH-VBC-FFS3-133
Sample Location: CAMBRIDGE, MA
Matrix: Concrete

Date Collected: 06/19/13 07:45
Date Received: 06/19/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	97.6		%	0.100	NA	1	-	06/20/13 01:26	30,2540G	RD

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID: L1311256-04
Client ID: TMH-VBC-FFS3-135
Sample Location: CAMBRIDGE, MA
Matrix: Concrete

Date Collected: 06/19/13 08:10
Date Received: 06/19/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.0		%	0.100	NA	1	-	06/20/13 01:26	30,2540G	RD

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

SAMPLE RESULTS

Lab ID: L1311256-05
Client ID: TMH-VBC-FFS3-134
Sample Location: CAMBRIDGE, MA
Matrix: Brick

Date Collected: 06/19/13 12:10
Date Received: 06/19/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.9		%	0.100	NA	1	-	06/20/13 01:26	30,2540G	RD

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG616247-1 QC Sample: L1311233-01 Client ID: DUP Sample						
Solids, Total	96.7	96.6	%	0		20

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1311256
Report Date: 06/21/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1311256-01A	Amber 120ml unpreserved	A	N/A	2.6	Y	Absent	TS(7),MCP-8082LL-10-3540C(365)
L1311256-02A	Amber 120ml unpreserved	A	N/A	2.6	Y	Absent	TS(7),MCP-8082LL-10-3540C(365)
L1311256-03A	Amber 120ml unpreserved	A	N/A	2.6	Y	Absent	TS(7),MCP-8082LL-10-3540C(365)
L1311256-04A	Amber 120ml unpreserved	A	N/A	2.6	Y	Absent	TS(7),MCP-8082LL-10-3540C(365)
L1311256-05A	Amber 120ml unpreserved	A	N/A	2.6	Y	Absent	TS(7),MCP-8082LL-10-3540C(365)
L1311256-06A	Amber 1000ml unpreserved	A	7	2.6	Y	Absent	MCP-8082-10(365)

*Values in parentheses indicate holding time in days

Project Name:	TUCHMAN HALL	**Lab Number:**	L1311256
Project Number:	Not Specified	**Report Date:**	06/21/13

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name:	TUCHMAN HALL	**Lab Number:**	L1311256
Project Number:	Not Specified	**Report Date:**	06/21/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: TUCHMAN HALL
Project Number: Not Specified
Lab Number: L1311256
Report Date: 06/21/13

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised June 17, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

State of Illinois Certificate/Lab ID: 003155. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

Hazardous and Solid Waste (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm 9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether, Ethyl tert-butyl ether, Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE). **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, 1,3,5-Trimethylbenzene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. **EPA 8015C:** TPH. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

CHAIN OF CUSTODY

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1 of 3

Date Rec'd in Lab: 6/19/13

ALPHA Job #: L1311256

ALPHA ANALYTICAL — World Class Chemistry
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: Woodard + Curran
Address: 41 Hutchins Drive
Portland ME
Phone:
Email: jhamel@woodardcurran.com
amartin@
JRussell@

Project Information

Project Name: Tuchman Hall
Project Location: Cambridge, MA
Project #:
Project Manager: Amy Martin
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!)
Date Due: 48hr TAT 6/21/13

Report Information - Data Deliverables

☐ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

PCBs 8082 soxhlet

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☒ PCB ☐ PEST 8082 soxhlet
TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	PCB	Sample Comments	TOTAL # BOTTLES
11256.1	TMH-VBC-FFS2-131	6/19/13	0730	Concrete	JAR	X		1
.2	TMH-VBC-FFS3-132		0735	Concrete	JAR	X		1
.3	TMH-VBC-FFS3-133		0745	Concrete	JAR	X		1
.4	TMH-VBC-FFS3-135		0810	Concrete	JAR	X		1
.5	TMH-VBC-FFS3-134		1210	Brick	JAR	X		1
.6	TMH-VBCQ-FFS3-136	6/19/13	1155	Water	JAR	X		1
				Container Type		A		
				Preservative		A		

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	6/19/13		6/19/13 1410
	6/19/13 1805	Richard Scott	6/19/13 1805

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1312289
Client:	Woodard & Curran 41 Hutchins Drive Portland, ME 04102
ATTN:	Amy Martin
Phone:	(207) 774-2112
Project Name:	TUCHMAN HALL
Project Number:	226333
Report Date:	07/03/13

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: TUCHMAN HALL
Project Number: 226333

Lab Number: L1312289
Report Date: 07/03/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1312289-01	TMH-VBC-138	Not Specified	07/01/13 09:15
L1312289-02	TMH-VBC-139	Not Specified	07/01/13 09:40

Project Name:	TUCHMAN HALL	**Lab Number:**	L1312289
Project Number:	226333	**Report Date:**	07/03/13

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: TUCHMAN HALL
Project Number: 226333

Lab Number: L1312289
Report Date: 07/03/13

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	TUCHMAN HALL	**Lab Number:**	L1312289
Project Number:	226333	**Report Date:**	07/03/13

Case Narrative (continued)

MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Lisa Westerlind

Title: Technical Director/Representative Date: 07/03/13

ORGANICS

PCBS

Project Name: TUCHMAN HALL
Project Number: 226333
Lab Number: L1312289
Report Date: 07/03/13

SAMPLE RESULTS

Lab ID:	L1312289-01	Date Collected:	07/01/13 09:15
Client ID:	TMH-VBC-138	Date Received:	07/01/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	07/01/13 19:50
Analytical Date:	07/03/13 07:07	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	07/02/13
Percent Solids:	98%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	07/02/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug/kg	55.4	--	1
Aroclor 1221	ND		ug/kg	55.4	--	1
Aroclor 1232	ND		ug/kg	55.4	--	1
Aroclor 1242	ND		ug/kg	55.4	--	1
Aroclor 1248	ND		ug/kg	37.0	--	1
Aroclor 1260	ND		ug/kg	37.0	--	1
Aroclor 1262	ND		ug/kg	18.5	--	1
Aroclor 1268	ND		ug/kg	18.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	83		30-150
Decachlorobiphenyl	108		30-150
2,4,5,6-Tetrachloro-m-xylene	79		30-150
Decachlorobiphenyl	119		30-150

Project Name: TUCHMAN HALL
Project Number: 226333
Lab Number: L1312289
Report Date: 07/03/13

SAMPLE RESULTS

Lab ID:	L1312289-01	Date Collected:	07/01/13 09:15
Client ID:	TMH-VBC-138	Date Received:	07/01/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	07/01/13 19:50
Analytical Date:	07/03/13 07:07	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	07/02/13
Percent Solids:	98%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	07/02/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1254	58.3		ug/kg	55.4	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	83		30-150
Decachlorobiphenyl	108		30-150
2,4,5,6-Tetrachloro-m-xylene	79		30-150
Decachlorobiphenyl	119		30-150

Project Name: TUCHMAN HALL
Project Number: 226333
Lab Number: L1312289
Report Date: 07/03/13

SAMPLE RESULTS

Lab ID:	L1312289-02	Date Collected:	07/01/13 09:40
Client ID:	TMH-VBC-139	Date Received:	07/01/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Concrete	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	07/01/13 19:50
Analytical Date:	07/03/13 07:20	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	07/02/13
Percent Solids:	99%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	07/02/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug/kg	54.0	--	1
Aroclor 1221	ND		ug/kg	54.0	--	1
Aroclor 1232	ND		ug/kg	54.0	--	1
Aroclor 1242	ND		ug/kg	54.0	--	1
Aroclor 1248	ND		ug/kg	36.0	--	1
Aroclor 1254	ND		ug/kg	54.0	--	1
Aroclor 1260	ND		ug/kg	36.0	--	1
Aroclor 1262	ND		ug/kg	18.0	--	1
Aroclor 1268	ND		ug/kg	18.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	83		30-150
Decachlorobiphenyl	111		30-150
2,4,5,6-Tetrachloro-m-xylene	81		30-150
Decachlorobiphenyl	122		30-150

Project Name: TUCHMAN HALL
Project Number: 226333

Lab Number: L1312289
Report Date: 07/03/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/03/13 07:33
Analyst: JT

Extraction Method: EPA 3540C
Extraction Date: 07/01/13 19:50
Cleanup Method1: EPA 3665A
Cleanup Date1: 07/02/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 07/02/13

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-02 Batch: WG618942-1					
Aroclor 1016	ND		ug/kg	56.8	--
Aroclor 1221	ND		ug/kg	56.8	--
Aroclor 1232	ND		ug/kg	56.8	--
Aroclor 1242	ND		ug/kg	56.8	--
Aroclor 1248	ND		ug/kg	37.9	--
Aroclor 1254	ND		ug/kg	56.8	--
Aroclor 1260	ND		ug/kg	37.9	--
Aroclor 1262	ND		ug/kg	18.9	--
Aroclor 1268	ND		ug/kg	18.9	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	79		30-150
Decachlorobiphenyl	108		30-150
2,4,5,6-Tetrachloro-m-xylene	77		30-150
Decachlorobiphenyl	96		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUCHMAN HALL

Project Number: 226333

Lab Number: L1312289

Report Date: 07/03/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-02 Batch: WG618942-2 WG618942-3								
Aroclor 1016	83		83		40-140	0		30
Aroclor 1260	88		88		40-140	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	85		82		30-150
Decachlorobiphenyl	118		116		30-150
2,4,5,6-Tetrachloro-m-xylene	85		82		30-150
Decachlorobiphenyl	108		104		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: TUCHMAN HALL
Project Number: 226333
Lab Number: L1312289
Report Date: 07/03/13

SAMPLE RESULTS

Lab ID: L1312289-01
Client ID: TMH-VBC-138
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 07/01/13 09:15
Date Received: 07/01/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.4		%	0.100	NA	1	-	07/01/13 23:43	30,2540G	RT

Project Name: TUCHMAN HALL
Project Number: 226333
Lab Number: L1312289
Report Date: 07/03/13

SAMPLE RESULTS

Lab ID: L1312289-02
Client ID: TMH-VBC-139
Sample Location: Not Specified
Matrix: Concrete

Date Collected: 07/01/13 09:40
Date Received: 07/01/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.8		%	0.100	NA	1	-	07/01/13 23:43	30,2540G	RT

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUCHMAN HALL
Project Number: 226333

Lab Number: L1312289
Report Date: 07/03/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG618973-1 QC Sample: L1311509-03 Client ID: DUP Sample						
Solids, Total	98.9	98.8	%	0		20

Project Name: TUCHMAN HALL
Project Number: 226333

Lab Number: L1312289
Report Date: 07/03/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1312289-01A	Amber 120ml unpreserved	A	N/A	2.2	Y	Absent	TS(7),MCP-8082LL-10-3540C(365)
L1312289-02A	Amber 120ml unpreserved	A	N/A	2.2	Y	Absent	TS(7),MCP-8082LL-10-3540C(365)

Container Comments

L1312289-01A

L1312289-02A

*Values in parentheses indicate holding time in days

Project Name:	TUCHMAN HALL	**Lab Number:**	L1312289
Project Number:	226333	**Report Date:**	07/03/13

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name:	TUCHMAN HALL	**Lab Number:**	L1312289
Project Number:	226333	**Report Date:**	07/03/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TUCHMAN HALL	**Lab Number:**	L1312289
Project Number:	226333	**Report Date:**	07/03/13

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised July 2, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

State of Illinois Certificate/Lab ID: 003155. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

Hazardous and Solid Waste (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2064. ***NELAP Accredited.***
Drinking Water (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

Non-Potable Water (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

Solid & Chemical Materials (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm

9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

1 of 1

Chain Of Custody Form

L13/2289

analytics environmental laboratory LLC

195 Commerce Way, Suite E
Portsmouth, NH 03801
(800) 929-9906

(603) 436-5111
(603) 430-2151 Fax

For Analytics Use Only

Samples were:
1) Shipped or hand-delivered
2) Temperature (°C): _____
3) Received in good condition: Y or N
4) pH checked by: _____
5) Labels checked by: _____

Project Name: Tyngsman Hall
Project#: 226333
Company: Woodard + Curran
Report to: Amy Martin
Address: 41 Hutchins Drive Portland ME
Phone:
Quote #:
PO# (if required):

Preservation Code:

Preseravtion Key:
A= HCL
B= 4°C
C= Unpres
D = MeOH
E = HNO3
F = H2SO4
G = Hexane
H = Other

Circle and/or Write Required Analysis Followed by Preservation Code

Please fill in preservation code here

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
E = Extract
GW = Groundwater
DW = Drinking Water
S = Soil / Sludge
O = Oil
X = Other

	Sample Identification	Sample Date	Sample Time	Field Filtered? Y or N	VOC: 8260 524.2 624	SVOC: 8270 625 PAH only SIM	Pesticides: 8081 608	PCB: (8082) 608 Soxhlet? Y or N	TPH: 8015 (Gas Range) ME4217	TPH: 8015 (Diesel Range) 8100M ME4125	EPH: Full or Ranges only TETPH	VPH: Full or Ranges only	Metals: RCRA8 PP13 TAL23 Other**	Matrix	No. of Containers	pH checked	Analytics Sample #
1	TMH-VBC-138	7/1/13	0915					X						C	1		
2	TMH-VBC-139	7/1/13	0940					X						C	1		

Email Results to: jhamel@woodardcurran.com; mmartin@woodardcurran.com; jrussell@woodardcurran.com

Comments, Additional Analyses, or Special Instructions: ** List requested metals here

PCBs 8082 Soxhlet

Turnaround Time (TAT)

- [ ] 1 Day*
- [x] 2 Days*
- [ ] 3 Days*
- [ ] 4 Days*
- [ ] 5 Days
- [ ] Standard (8-10 business days)

*Fee may apply; lab approval required

Please note: For volatile analyses, a trip blank has been provided in the cooler. If you want the trip blank run and reported please write the trip blank on the COC. Trip Blank analyses will be charged unless other arrangements have been made.

Project Requirements:
*Fee may apply

Report Type:
- [x] MCP*
- [x] Level II*
- [ ] CTRCP*
- [ ] Level III*
- [ ] DDD*
- [ ] Level IV*
- [ ] Standard

State:
- [ ] NH
- [x] MA
- [ ] ME
- [ ] CT
- [ ] RI

Other: _____

State Standard: _____ (eg. S-1 or GW-1)

EDD Required: Y* N

Type: _____

Sampler Name (Print): Jill Russell

Relinquished By Sampler:	Date: 7/1/13	Time: 1601 40	Received By:	
Relinquished By:	Date: 7/1/13	Time: 17:40	Received By:	
Relinquished By:	Date:	Time:	Received By:	

Page 1 of 1

ANALYTICAL REPORT

Lab Number:	L1312477
Client:	Woodard & Curran 41 Hutchins Drive Portland, ME 04102
ATTN:	Amy Martin
Phone:	(207) 774-2112
Project Name:	TUCHMAN HALL
Project Number:	Not Specified
Report Date:	07/08/13

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1312477
Report Date: 07/08/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1312477-01	TMH-VWM-TH-140	Not Specified	07/03/13 11:30
L1312477-02	TMH-VBC-TH-141	Not Specified	07/03/13 12:00

Project Name: TUCHMAN HALL **Lab Number:** L1312477

Project Number: Not Specified **Report Date:** 07/08/13

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1312477
Report Date: 07/08/13

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1312477
Report Date: 07/08/13

Case Narrative (continued)

MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cynthia McQueen

Title: Technical Director/Representative Date: 07/08/13

ORGANICS

PCBS

Project Name: TUCHMAN HALL
Project Number: Not Specified
Lab Number: L1312477
Report Date: 07/08/13

SAMPLE RESULTS

Lab ID:	L1312477-01	Date Collected:	07/03/13 11:30
Client ID:	TMH-VWM-TH-140	Date Received:	07/03/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	07/03/13 21:10
Analytical Date:	07/05/13 16:50	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	07/05/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	07/05/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	74		30-150
Decachlorobiphenyl	93		30-150
2,4,5,6-Tetrachloro-m-xylene	78		30-150
Decachlorobiphenyl	98		30-150

Project Name: TUCHMAN HALL
Project Number: Not Specified
Lab Number: L1312477
Report Date: 07/08/13

SAMPLE RESULTS

Lab ID:	L1312477-02	Date Collected:	07/03/13 12:00
Client ID:	TMH-VBC-TH-141	Date Received:	07/03/13
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	07/03/13 21:10
Analytical Date:	07/05/13 15:57	Cleanup Method1:	EPA 3665A
Analyst:	JT	Cleanup Date1:	07/05/13
Percent Solids:	98%	Cleanup Method2:	EPA 3660B
		Cleanup Date2:	07/05/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug/kg	56.9	--	1
Aroclor 1221	ND		ug/kg	56.9	--	1
Aroclor 1232	ND		ug/kg	56.9	--	1
Aroclor 1242	ND		ug/kg	56.9	--	1
Aroclor 1248	ND		ug/kg	37.9	--	1
Aroclor 1254	ND		ug/kg	56.9	--	1
Aroclor 1260	ND		ug/kg	37.9	--	1
Aroclor 1262	ND		ug/kg	19.0	--	1
Aroclor 1268	ND		ug/kg	19.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	73		30-150
Decachlorobiphenyl	91		30-150
2,4,5,6-Tetrachloro-m-xylene	70		30-150
Decachlorobiphenyl	101		30-150

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1312477
Report Date: 07/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/05/13 16:10
Analyst: JT

Extraction Method: EPA 3540C
Extraction Date: 07/03/13 21:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 07/05/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 07/05/13

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 02 Batch: WG619566-1					
Aroclor 1016	ND		ug/kg	55.8	--
Aroclor 1221	ND		ug/kg	55.8	--
Aroclor 1232	ND		ug/kg	55.8	--
Aroclor 1242	ND		ug/kg	55.8	--
Aroclor 1248	ND		ug/kg	37.2	--
Aroclor 1254	ND		ug/kg	55.8	--
Aroclor 1260	ND		ug/kg	37.2	--
Aroclor 1262	ND		ug/kg	18.6	--
Aroclor 1268	ND		ug/kg	18.6	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	70		30-150
Decachlorobiphenyl	90		30-150
2,4,5,6-Tetrachloro-m-xylene	76		30-150
Decachlorobiphenyl	94		30-150

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1312477
Report Date: 07/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/05/13 17:03
Analyst: JT

Extraction Method: EPA 3540C
Extraction Date: 07/03/13 21:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 07/05/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 07/05/13

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG619567-1					
Aroclor 1016	ND		ug Abs	0.500	--
Aroclor 1221	ND		ug Abs	0.500	--
Aroclor 1232	ND		ug Abs	0.500	--
Aroclor 1242	ND		ug Abs	0.500	--
Aroclor 1248	ND		ug Abs	0.500	--
Aroclor 1254	ND		ug Abs	0.500	--
Aroclor 1260	ND		ug Abs	0.500	--
Aroclor 1262	ND		ug Abs	0.500	--
Aroclor 1268	ND		ug Abs	0.500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	66		30-150
Decachlorobiphenyl	93		30-150
2,4,5,6-Tetrachloro-m-xylene	74		30-150
Decachlorobiphenyl	97		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUCHMAN HALL

Project Number: Not Specified

Lab Number: L1312477

Report Date: 07/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 02 Batch: WG619566-2 WG619566-3								
Aroclor 1016	76		77		40-140	1		30
Aroclor 1260	74		74		40-140	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	71		71		30-150
Decachlorobiphenyl	89		90		30-150
2,4,5,6-Tetrachloro-m-xylene	76		77		30-150
Decachlorobiphenyl	94		94		30-150

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG619567-2 WG619567-3								
Aroclor 1016	69		81		40-140	17		30
Aroclor 1260	76		80		40-140	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	43		69		30-150
Decachlorobiphenyl	92		94		30-150
2,4,5,6-Tetrachloro-m-xylene	46		77		30-150
Decachlorobiphenyl	98		101		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1312477
Report Date: 07/08/13

SAMPLE RESULTS

Lab ID: L1312477-02
Client ID: TMH-VBC-TH-141
Sample Location: Not Specified
Matrix: Solid

Date Collected: 07/03/13 12:00
Date Received: 07/03/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.2		%	0.100	NA	1	-	07/07/13 01:42	30,2540G	EL

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1312477
Report Date: 07/08/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG619924-1 QC Sample: L1312487-06 Client ID: DUP Sample						
Solids, Total	98.6	98.5	%	0		20

Project Name: TUCHMAN HALL
Project Number: Not Specified

Lab Number: L1312477
Report Date: 07/08/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1312477-01A	Amber 100ml Hexane preserved	A	N/A	3.1	Y	Absent	MCP-8082-10-3540C(365)
L1312477-02A	Amber 250ml unpreserved	A	N/A	3.1	Y	Absent	TS(7),MCP-8082LL-10-3540C(365)

*Values in parentheses indicate holding time in days

Project Name:	TUCHMAN HALL	**Lab Number:**	L1312477
Project Number:	Not Specified	**Report Date:**	07/08/13

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name:	TUCHMAN HALL	**Lab Number:**	L1312477
Project Number:	Not Specified	**Report Date:**	07/08/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: TUCHMAN HALL
Project Number: Not Specified
Lab Number: L1312477
Report Date: 07/08/13

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised July 2, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

State of Illinois Certificate/Lab ID: 003155. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

Hazardous and Solid Waste (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2064. ***NELAP Accredited.***
Drinking Water (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

Non-Potable Water (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

Solid & Chemical Materials (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm

9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

Chain Of Custody Form

L1312477

analytics environmental laboratory LLC

2 of 2

195 Commerce Way, Suite E
Portsmouth, NH 03801
(800) 929-9906
(603) 436-5111
(603) 430-2151 Fax

Project Name: Tuchman Hall
Project#:
Company: Woodard + Curran
Report to: Amy Martin
Address: 41 Hutching Dam Portland ME
Phone:
Quote #:
PO# (if required):

Preservation Code: Please fill in preservation code here

Preseravtion Key:
A= HCL
B= 4°C
C= Unpres
D = MeOH
E = HNO3
F = H2SO4
G = Hexane
H = Other

Circle and/or Write Required Analysis Followed by Preservation Code

Sample Identification	Sample Date	Sample Time	Field Filtered? Y or N	VOC: 8260 524.2 624	SVOC: 8270 625 PAH only SIM	Pesticides: 8081 608	PCB: 8082 608 Soxhlet? Y or N	TPH: 8015 (Gas Range) ME4217	TPH: 8015 (Diesel Range) 8100M ME4125	EPH: Full or Ranges only TETPH	VPH: Full or Ranges only	Metals: RCRA8 PP13 TAL23 Other**	Matrix	No. of Containers	pH checked	Analytics Sample #
1 TMH-VWM-TH-140	7/3/13	1130					X						WP	1		
2 TMH-VBC-TH-141	7/3/13	1200					X						C	1		

For Analytics Use Only

Samples were:
1) Shipped or hand-delivered
2) Temperature (°C): _____
3) Received in good condition: Y or N
4) pH checked by: _____
5) Labels checked by: _____

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
E = Extract
GW = Groundwater
DW = Drinking Water
S = Soil / Sludge
O = Oil
X = Other

Email Results to: jhamel@woodardcurran.com amartin@ " JRussell@ "

Turnaround Time (TAT)
- [ ] 1 Day*
- [x] 2 Days*
- [ ] 3 Days*
- [ ] 4 Days*
- [ ] 5 Days
- [ ] Standard (8-10 business days)

*Fee may apply; lab approval required

Comments, Additional Analyses, or Special Instructions:
PCBs 8082 soxhlet
48 hr TAT

** List requested metals here

Please note: For volatile analyses, a trip blank has been provided in the cooler. If you want the trip blank run and reported please write the trip blank on the COC. Trip Blank analyses will be charged unless other arrangements have been made.

Project Requirements:
*Fee may apply

Report Type:
- [x] MCP*
- [x] Level II*
- [ ] CTRCP*
- [ ] Level III*
- [ ] DOD*
- [ ] Level IV*
- [ ] Standard

State:
- [ ] NH
- [x] MA
- [ ] ME
- [ ] CT
- [ ] RI

Other: _____

State Standard: _____ (eg. S-1 or GW-1)

EDD Required: Y* N
Type: ~~PDF~~ SR 7/3/13

Sampler Name (Print): Jill Russell

	Date	Time	
Relinquished By Sampler:	7/3/13	1345	Received By:
Relinquished By:	7/3/13	1805	Received By:
Relinquished By:	Date:	Time:	Received By:

Page 1 of 1

TUCHMAN HALL - PROJECT SUMMARY

Analytics Environmental Laboratory Job Number: 75717, 75734, 75751, 75756, & 75762
Alpha Analytical Job Number: L1311256, L1312289, & L1312477

A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.

Samples were received at 2.2, 2.3, 2.6, 3.1, 4.1, 5.3, and 5.4 degrees Celsius. No qualifications will be applied.

PCBs:

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB surrogates met acceptance criteria (30-150%) or were diluted out with the following exceptions:

LAB ID	SAMPLE ID	TCX (%/%)	DCB (%/%)	QUALIFIER
75717-3	TMH-VBC-FFE7-102	215/207	277/227	None, sample ND
75734-5	TMH-VBC-FFW2-113	OK/I	OK/OK	None, only one out

TCX = tetrachloro-m-xylene DCB = decachlorobiphenyl
I = Chromatographic interference masked surrogate peak. Determination of surrogate recovery not possible.

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications will be applied.

PCB field blank samples, THM-VBCQ-GLS3-130 (75762-9) and THM-VBCQ-FFS3-136 (L1311256-6), were ND for all target analytes. No qualifications will be applied.

No PCB matrix spike/matrix spike duplicate (MS/MSD) was performed on a sample from these analytical packages. No qualifications will be applied.

The PCB laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) met acceptance criteria. No qualifications will be applied.

PCB field duplicate samples THM-VBC-GLW1-124 (75762-3)/THM-VBCD-GLW1-125 (75762-4) and THM-VBCD-GLS3-129 (75762-7)/THM-VBC-GLS3-128 (75762-8) met acceptance criteria. No qualifications will be applied.

The relative percent difference (RPD) between the column results for all detected PCBs met acceptance criteria. No qualifications will be applied.

Some samples were analyzed at dilutions due to the high concentration of PCBs present in the samples and/or due to sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilutions performed.

Data Check, Inc.
P.O. Box 29
81 Meaderboro Road
New Durham, NH 03855

Gloria J. Switalski:
President

Date: 9/19/2013